DICOM CONFORMANCE STATEMENT

FOR

DC-70 SERIES

DIAGNOSTIC ULTRASOUND SYSTEM

1 Conformance Statement Overview

This document describes the conformance to the ACR-NEMA DICOM 3.0 Standard by the ultrasound system of DC-70 Series. We specify ultrasound system generally refer to the products above in this document. The ultrasound system implements the necessary DICOM services to download worklists from an information system, save acquired Ultrasound (US) images and associated Structured Reports to a network storage device and/or removable media, print to a networked hardcopy device, query and retrieve the US images from a networked storage system, and inform the information system about the works actually done. Table 1 provides an overview of the supported network services, Table 2 lists the supported Media Storage Application Profiles, and Table 3 lists the supported Structured Report Templates.

Table 1
NETWORK SERVICES

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Transfer Storage		
Verification	Yes	Yes
Ultrasound Image Storage	Yes	Yes
Ultrasound Multi-frame Image Storage	Yes	Yes
Secondary Capture Image Storage	Yes	Yes
Encapsulated PDF Storage	Yes	Yes
Raw Data Storage	Yes	Yes
Enhanced US Volume Storage	Yes	No
Query/Retrieve		
Study Root Query/Retrieve Information Model FIND	Yes	No
Study Root Query/Retrieve Information Model MOVE	Yes	No
Workflow Management		
Modality Worklist Information Model Find	Yes	No
Modality Performed Procedure Step	Yes	No
Storage Commitment Push Model	Yes	No

7.3 Application level security 91
8 ANNEXES.....

B.22. CID (12216) Echocardiography Hepatic Veins 175
B.23. CID (12217) Echocardiography Cardiac Shunt 176
B.24. CID (12218) Echocardiography Congenital 176
B.25. CID (12220) Echocardiography Common Measurements 176
B.26. CID (12221) Flow Direction 177
B.27. CID (12222) Orifice F Eung (en-US)>> BDC q0.000008871 0 595.32 842.04 reW* nBT/F1 10.5

C.10. CID (12106) Intracranial Cerebral Vessels (unilateral) 231
C.11. CID (12107) Upper Extremity Arteries 232
C.12. CID (SELFCID-2) Upper Extremity Arteries(unilateral) 232
C.13. CID (12108) Upper Extremity Veins 232
C.14.

3 Introduction

3.1 Review History

DOCUMENT VERSION	DATE OF ISSUE	DESCRIPTION
1.0	Sep.22,2016	Creation of the document
2.0	Dec.22,2020	Add DICOM TLS
3.0	Sep.3,2021	Add ABD STRUCTURED REPORTS

3.2 AudienceS

This document is intended for potential customers, system integrators of medical equipment, marketing staff interested in system functionality and software designers implementing DICOM interf 1 30 gETQ EMC /P /MCID 38/Lang (en-US)>> BDC q0.000008871 0 595.32 84

- **File Meta Information** - the File Meta Information includes identifying information on the encapsulated Data Set. It is a mandatory header at the beginning of every DICOM File.
- **Information Object Definition (IOD)** - the specified set of *Attributes* that comprise a type of data object; does not represent a specific instance of the data object, but

- **Service/Object Pair (SOP) Instance** an information object; a specific occurrence of information exchanged in a *SOP Class*. Examples: a specific x-ray image.
- **Tag** a 32-bit identifier for a data element, represented as a pair of four digit

  the tag is for a private (manufacturer-specific) data element. Examples: (0010,0020) [Patient ID], (07FE,0010) [Pixel Data], (0019,0210) [private data element]
- **Transfer Syntax** the encoding used for exchange of DICOM information objects and messages. Examples: *JPEG* compressed (images), little endian explicit value representation.
- **Unique Identifier (UID)**
  specific object or a class of objects; an ISO-8824 Object Identifier. Examples: Study Instance UID, SOP Class UID, SOP Instance UID.
- **Value Representation (VR)** the format type of an individual DICOM data element,

  can be transmitted with either explicit identification of the type of each data element (Explicit VR), or without explicit identification (Implicit VR); with Implicit VR, the receiving application must use a DICOM data dictionary to look up the format of each data element.

3.5 Acronyms, Abbreviations, and Symbols

The following acronyms and abbreviations are used in this document.

ACR	American College of Radiology
AE	Application Entity
CDR	Compact Disk Recordable
DICOM	Digital Imaging and Communications in Medicine
DIMSE	DICOM Message Service Element
DIMSE-C	DICOM Message Service Element-Composite
FSC	File-Set Creator
FSR	File-Set Reader
FSU	File-Set Updater
HIS	Hospital Information System
IHE	Integrating the Healthcare Enterprise
IOD	Information Object Definition
ISO	International Standard Organization
JPEG	Joint Photographic Experts Group
MODALITY	Ultrasound System
MPPS	Modality Performed Procedure Step
MWL	Modality Worklist

NEMA	National Electrical Manufacturers Association
O	Optional (Key Attribute)
PACS	Picture Archiving and Communication System
PDU	Protocol Data Unit
R	Required (Key Attribute)
RIS	Radiology Information System
SCP	Service Class Provider
SCU	Service Class User
SOP	Service Object Pair
SR	Structured Reporting
TCP/IP	Transmission Control Protocol/Internet Protocol
U	Unique (Key Attribute)
UL	Upper Layer
VR	Value Representation
US	Ultrasound
UID	Unique Identifier

3.6 References

DICOM Quick Guide & FAQ, Revision 3.0 Final Text, Mindray Co. Ltd

SR
DDSCU

- Storage AE (as SCU and SCP)
- Storage Commitment AE SCU
- Print AE (as SCU)
- Worklist AE (as SCU)
- MPPS AE (as SCU)
- Query/Retrieve AE (as SCU)

4.1.2 Functional Definitions of AE s

4.1.2.1 Verification AE

The ultrasound system supports the Verification service as a SCU and SCP.

As a SCU, verification is activated when the verify button is selected on the dicom service configuration page where the verification results will also be showed to the user.

As a SCP, verification AE waits in the background for connections, will accept associations with Presentation Contexts for SOP Class of the Verification Service Class, and will respond successfully to echo requests.

4.1.2.2 Storage AE

As a SCU, the Storage AE

0 0 1 89.904 490.51 Tm0 g0 GÍ6As a SCU.

The operations for manual storage service are described below:

- Operation 1

Step 1: Select the images from thumbnail menu in main UI.

□ SCPsSCPs

Step 3: Send the images to the DICOM Storage service SCPs.

- Operation 2

Step 1: Select exams in the iStation Dialog.

Step 2: Pr Exam and select DICOM Storage service SCPs.

Step 3: Send the selected exams (maybe include images, SRs, PDFs) to the DICOM Storage service SCPs.

- Operation 3

Step 1: Select thumbnail in the iStation Dialog.

Step 2: □ SCPs.

Step 3: Send the image to theW* n2acDC q0.000008871 0 595.92 reW* nBT/F1 10.56 Tf1 0 0 1 153.14 461.

Table 4
3D/4D Transfer Option

3D/4D Option	SOP Class	SOP Class UID
Normal	US Image Storage	1.2.840.10008.5.1.4.1.1.6.1
	US Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1
Volume	Enhanced US Volume Storage	1.2.840.10008.5.1.4.1.1.6.2
Rawdata	Raw Data Storage	1.2.840.10008.5.1.4.1.1.66

Transfer with Rawdata form is mainly used for 4DViewer to get the raw data of the image. The Storage SCP received the image could not review it because the image information is coded in private form. 4DViewer or DC-70 Series Diagnostic Ultrasound System could retrieve the file and review it.

In the event that the ultrasound system is taken off the network as a portable system or when a network failure occurs during a background store, the Storage SCU maintains a queue of failed C-STORE requests. If pre-configured on Preset UI, the failed C-Store requests will be automatically retried specified times. If no pre-configuration, the user can also retry the failed requests manually.

As a SCP, the Storage AE could only be used in Query/Retrieve, otherwise couldn't.

4.1.2.3 Storage Commitment AE

The Storage Commitment AE originates associations to ensure the reliable storage of DICOM composite information objects on remote DICOM device after sending DICOM Storage Service to the device.

The Storage Commitment service will be executed automatically in the circumstance as below:

- The Storage Commitment Service is set to associate with the Storage Service in DICOM storage service preset dialog and the associated Storage Service is executed.
- Exam is the unit to send.
- The status of the exam is "End". It would not be executed when an "Active", "Paused" or "Cancelled" exam is selected.

4.1.2.4 Print AE

As a SCU, the Print AE originates associations for the print of DICOM Ultrasound single frame images and secondary capture images to remote AE (selected from a pre-configured list).

The system is capable of grayscale (B/W) and color print supporting with automatic and manual print functions.

The operations for automatic print service are described below:

- Operation 1

Sending/printing after End Exam

Step 2: End Exam, the single frame images and secondary capture images of ended exam would automatically send to the default print service SCPs which are set to be default in the DICOM service preset dialog.

Notes: This □
DICOM print will be not active until one page is filled with the images or the exam end. For \ □ be not active until the shortcut key has been pressed 6 times. However, when the exam end, the DICOM print will be active even if one page is not filled.

- Operation 2

Step 1: Open the system preset dialog and switch to the "key config" tab page.

Step 2: Set the shortcut key which which means saving image to hard disk and combines the key with the function of sending image to the default DICOM print SCPs.

Step 3: During the examining, the user can press the print key to send image to default DICOM print service SCPs.

The operations for manual print service are described below:

- Operation 1

Step 1: Select the images from thumbnail menu in main UI.

□ print service SCPs.

Step 3: Send the images to the DICOM print service SCPs.

- Operation 2

Step 1: Select exams in the iStation Dialog.

Step 2: Pr Exam and select DICOM print service SCPs.

Step 3: Send the single frame images and secondary capture images of the selected exams to the DICOM print service SCPs.

- Operation 3

Step 1: Select thumbnail in the iStation Dialog.

Step 2: □ print service SCPs.

Step 3: Send the image to the DICOM print service SCPs.

- Operation 4

Step 1: Open the review dialog and select the images.

Step 2: P button to choose the print SCPs.

Enhanced CT Image Storage	1.2.840.10008.5.1.4.1.1.2.1	No	Yes[1]
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	No	Yes[1]
Enhanced MR Image Storage	1.2.840.10008.5.1.4.1.1.4.1	No	Yes[1]
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Yes	Yes[1]
Comprehensive Structured Report Storage	1.2.840.10008.5.1.4.1.1.88.33	Yes	Yes[1]
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Yes	Yes[1]
Enhanced US Volume Storage	1.2.840.10008.5.1.4.1.1.6.2	Yes	No
Raw Data Storage	1.2.840.10008.5.1.4.1.1.66	Yes	Yes
Storage Commitment Push Model	1.2.840.10008.1.20.1	Yes	No
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9	Yes	No
Basic Color Print Management Meta SOP Class	1.2.840.10008.5.1.1.18	Yes	No
Basic Film Session SOP Class	1.2.840.10008.5.1.1.1	Yes	No
Basic Film Box SOP Class	1.2.840.10008.5.1.1.2	Yes	No
Basic Grayscale Image Box SOP Class	1.2.840.10008.5.1.1.4	Yes	No
Printer SOP Class	1.2.840.10008.5.1.1.16	Yes	No
Print Job SOP Class	1.2.840.10008.5.1.1.14	Yes	No
Modality Worklist Information Model – Find	1.2.840.10008.5.1.4.31	Yes	No
Modality Performed Procedure Step SOP Class	1.2.840.10008.3.1.2.3.3	Yes	No
Study Root Query/Retrieve Information Model - Find	1.2.840.10008.5.1.4.1.2.2.1	Yes	No
Study Root Query/Retrieve Information Model - Move	1.2.840.10008.5.1.4.1.2.2.2	Yes	No

Note 1 Yes only used in Query/Retrieve, otherwise No.

4.2.1.2 Association Establishment Policies

4.2.1.2.1General

The DICOM standard application context name for DICOM 3.0 is always proposed:

Table 6

DICOM Application Context for Modality AE

Application Context Name	1.2.840.10008.3.1.1.1

The PDU size is configurable with a minimum size of 16,384 and a maximum size of 65,536. The default PDU size is 32,768.

4.2.1.2.2Number of Associations

The system initiates one Association at a time for each destination to which a transfer request is being processed in the active job queue list. Since Storage and Print tasks are executed within a same thread, when they are selected simultaneously, only one job will be active at a time, the other(s) remain pending until the active job is successful or failed.

Table 7

Number of Associations as an Association Initiator

Maximum number of simultaneous associations	1

Table 8

Number of Associations as an Association Acceptor

Maximum number of simultaneous associations	1

4.2.1.2.3 Asynchronous Nature

The ultrasound system will only allow a single outstanding operation on an association.

4.2.1.2.4 Implementation Identifying Information

Table 9

DICOM Implementation Class and Version for Modality AE

Implementation Class UID	1.2.156.112536.1.2143.0.1.0.1
Implementation Version Name	MINDRAY_V1.0

4.2.1.3 Association Initiation Policy

4.2.1.3.1 Activity Request Echo

4.2.1.3.1.1 Description and Sequencing of Activities

The user can verify the existence of a DICOM server on the hospitals network, through a Service the ultrasound system will initiate the association.

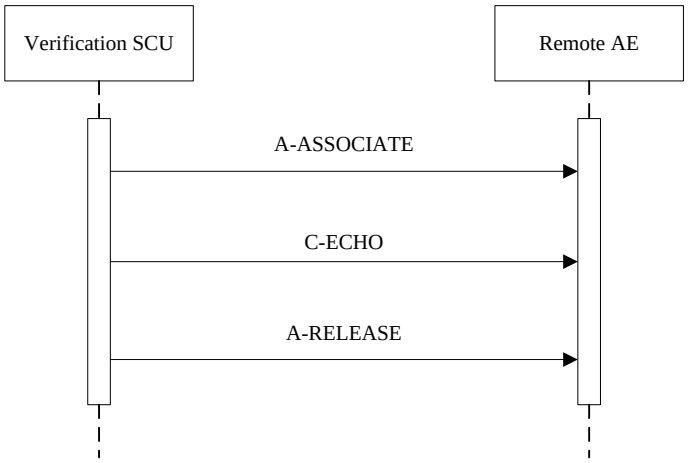

Figure 2

Sequencing of Activity Send Echo Request

4.2.1.3.1.2 Proposed Presentation Contexts

The Verification AE (as SCU) supports the following Presentation Contexts for Verification.

Table 10

Presentation Contexts for Verification

PROPOSED PRESENTATION CONTEXTS					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name**	**UID**		
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None

4.2.1.3.1.3 SOP Specific Conformance

It summarizes the behavior of Ultrasound System when receiving status codes in a C-ECHO response.

Table 11

Verification C-Echo Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior (as SCU)
Success	Success	0000	Device Status is set to: Verify Successful
Refused	Out of Resources	A7XX	Device Status is set to: Verify Failed
Failed	Unable to process	CXXX	Device Status is set to: Verify Failed
*	*	Any other status code	Device Status is set to: Verify Failed

4.2.1.3.2 Activity Store images, SRs, PDFs, 3D/4D images

4.2.1.3.2.1 Description and Sequencing of Activities

For each exam, image selected from the user interface to be transferred, an attempt will be made to transfer it to the selected remote AE. When the storage fails, not only the failed task will automatically retry specific times if configured on Preset UI, but also user can restart the failed task by pressing Retry Button on the ultrasound task management dialog. Besides that, in the event that the ultrasound system is taken off the network or when a network failure occurs during a background store, the Storage SCU maintains a queue of failed C-STORE requests. Once the network is restored, the system will retry automaticlly.

Structured Reports will contain a part of common used measurements and calculations created by ultrasound system, and custom measurements or calculations will also be sent in SR

If custom measurements or calculations were defined, all custom measurements or calculations will be contained in private elements(M-99999,MRUS, "custom-measurement-name") in SR, where " custom-measurement-name " means the name of user custom measurement in the ultrasound system.

- The OB and Gyn exam types create OB-GYN Ultrasound Procedure Reports.
- The Adult Card exam type creates Adult Echocardiography Reports.
- The Uro and Vas exam types create Vascular Reports
- The Breast exam types create Breast Imaging Reports.

Figure 3

Sequencing of Activity Send Storage Request

4.2.1.3.2.2 Proposed Presentation Contexts

If Storage AE is offered a choice of Transfer Syntaxes in the accepted Presentation Contexts, it will apply the first encountered to use for the C-STORE operation. As to Compress Transfer Syntaxes, it will apply the user configured one.

Table 12

Proposed Presentation Contexts for Storage

PROPOSED PRESENTATION CONTEXTS					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name**	**UID**		
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		JPEG Lossy, Baseline	1.2.840.10008.1.2.4.	SCU	None

		Sequential with Huffman Coding (Process 1)	50		
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5	SCU	None
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCU	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCU	None
US Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5	SCU	None
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCU	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCU	None
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCU	None

		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5	SCU	None
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCU	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCU	None
Comprehensive Structured Report Storage	1.2.840.10008.5.1.4.1.1.88.33	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCU	None
		RLE Lossless	1.2.840.10008.1.2.5	SCU	None
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCU	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCU	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
		JPEG Lossless, Non-Hierarchical,	1.2.840.10008.1.2.4.70	SCU	None

First-Order Prediction
(Process 14 [Selection
Value 1])

		Only)			
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCU	None

4.2.1.3.2.3 SOP Specific Conformance

Storage AE provides Standard Conformance to the Storage Service Class.

Storage AE will behave as described in the Table below in response to the status returned in the C-STORE response command message.

Table 13
Storage C-STORE Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	Image transmission is successful, The status code is logged and the task success is reported to the user via task management.
Refused	Out of Resources	A7xx	The association is aborted using A-ABORT and the send task is marked as failed. The reason is logged and, If user selects the failed task, the reasons for this failure will be showed via task management.
Error	Data Set does not match SOP Class	A9xx	The association is aborted using A-ABORT and the send task is marked as failed. The reason is logged and, If user selects the failed task, the reasons for this failure will be showed via task management.
Error	Cannot Understand	Cxxx	The association is aborted using A-ABORT and the send job is marked as failed. The reason is logged and, If user selects the failed task, the reasons for this failure will be showed via task management.
Failure	Any other failure	xxxx	The association is aborted using A-ABORT and the send job is marked as failed. The reason is logged and, If user selects the failed task, the reasons for this failure will be showed via task management.
Warning	Coercion of Data Elements	B000	Image transmission is considered successful but the status meaning is logged.
	Data Set does not match SOP Class	B007	Image transmission is considered successful but the status meaning is logged.
	Elements Discarded	B006	Image transmission is considered successful but the status meaning is logged.
	Any other status code.	xxxx	The Association is aborted using A-ABORT and the send job is marked as failed. The status code is logged

			and the job failure is reported to the user via task management.

The behavior during communication failure is summarized in the Table below:

Table 14

Storage Communication Failure Behavior

Exception	Behavior
Timeout	The Association is aborted using A-ABORT and the send job is marked as failed. The reason is logged and the job failure is reported to the user via task management.
Association aborted by the SCP or network layers	The send job is marked as failed. The reason is logged and the job failure is reported to the user via task management.

The following tables provide the list of attributes requested in the Storage.

Table 15

US Image IOD

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	General Series
Equipment	General Equipment
Image	General Image
	Image Pixel
	US Region Calibration
	US Image
	VOI LUT
	SOP Common

Table 16

US Multi-Frame Image IOD

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	General Series
Equipment	General Equipment
Image	General Image
	Image Pixel

	Cine
	Multi-frame
	US Region Calibration
	US Image
	VOI LUT
	SOP Common

Table 17

SC Image IOD

IE	**Module**
Patient	Patient
Study	General Study

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	General Series
Equipment	General Equipment
Raw Data	Acquisition Context
	Raw Data
	SOP Common

Table 20

Enhanced US Volume IOD

IE	Module
Patient	Patient
Study	General Study
	Patient Study
Series	General Series
	Enhanced US Series

(0010,1000)	LO	3	Other Patient IDs	MWL/USER
(0010,2160)	SH	3	Ethnic Group	MWL
(0010,4000)	LT	3	Patient Comments	MWL/USER

Table 22

General Study Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,0020)	DA	2	Study Date	AUTO
(0008,0030)	TM	2	Study Time	AUTO
(0008,0050)	SH	2	Accession Number	MWL/USER, default is set to zero length
(0008,0090)	PN	2	Referring Physician's Name	MWL/USER, default is set to zero length
(0008,1030)	LO	3	Study Description	MWL/USER, default is set to zero length
(0008,1032)	SQ	3	Procedure Code Sequence	MWL
(0020,000D)	UI	1	Study Instance UID	MWL/AUTO
(0020,0010)	SH	2	Study ID	AUTO

Table 23

Patient Study Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,1080)	LO	3	Admitting Diagnoses Description	MWL
(0010,1010)	AS	3	Patient's Age	MWL/USER, default is set to zero length If the user set Patient Birth Date, it will be calculated automatically.
(0010,1020)	DS	3	Patient's Size	MWL/USER, default is set to zero length
(0010,1030)	DS	3	Patient's Weight	MWL/USER, default is set to zero length
(0010,21B0)	LT	3	Additional Patient History	MWL

Table 24

General Series Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,0021)	DA	3	Series Date	AUTO
(0008,0031)	TM	3	Series Time	AUTO
(0008,0060)	CS	1	Modality	
(0008,103E)	LO	3	Series Description	MWL/USER
(0008,1050)	PN	3	Performing Physician's Name	MWL/USER, default is set to zero length
(0008,1070)	PN	3	Operators' Name	MWL/USER, default is set to zero length
(0018,1030)	LO	3	Protocol Name	AUTO set to ExamType
(0018,5100)	CS	2C	Patient Position	Set to zero length
(0020,000E)	UI	1	Series Instance UID	AUTO
(0020,0011)	IS	2	Series Number	AUTO
(0020,0060)	CS	2C	Laterality	Set to zero length
(0040,0244)	DA	3	Performed Procedure Step Start Date	MPPS
(0040,0245)	TM	3	Performed Procedure Step Start Time	MPPS
(0040,0254)	LO	3	Performed Procedure Step Description	MPPS
(0040,0260)	SQ	3	Performed Protocol Code Sequence	MPPS

Table 25

Encapsulated Document Series Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,0060)	CS	1	Modality	US
(0020,000E)	UI	1	Series Instance UID	AUTO
(0020,0011)	IS	1	Series Number	AUTO
(0008,103E)	LO	3	Series Description	MWL/USER
(0040,0275)	SQ	3	Request Attributes Sequence	MWL

(0040,1001)	SH	1C	>Requested Procedure ID	MWL
(0040,0009)	SH	1C	>Scheduled Procedure Step ID	MWL
(0040,0007)	LO	3	>Scheduled Procedure Step MWL Description	MWL
(0040,0008)	SQ	3	>Scheduled Protocol Code Sequence	MWL
(0008,0100)	SH	1C	>>Code Value	MWL
(0008,0102)	SH	1C	>>Coding Scheme designator	MWL
(0008,0103)	SH	1C	>>Coding Scheme Version	MWL
(0008,0104)	LO	1C	>>Code Meaning	MWL

Table 26

Enhanced US Series Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,0060)	CS	1	Modality	US
(0008,1111)	SQ	1C	Referenced Performed Procedure Step Sequence	MPPS
(0040,0260)	SQ	1C	Performed Protocol Code Sequence	MWL

Table 27

Frame of Reference Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0020,0052)	UI	1	Frame of Reference UID	AUTO
(0020,1040)	LO	2	Position Reference Indicator	Set to zero length

Table 28

Ultrasound Frame of Reffrence Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0020,9312)	UI	1	Volume Frame of Reference UID	AUTO
(0020,9307)	CS	1	Ultrasound Acquisition Geometry	APEX
(0020,9308)	FD	1C	Apex Position	Position of the apex (or phase center) of the acquisition geometry, encoded as xA, yA, and zA in mm units in the Volume Frame of Reference.
(0020,9309)	FD	1	Volume to Transducer Mapping Matrix	A 4x4 homogeneous transformation matrix that maps the Volume Frame of Reference coordinate system (XV, YV, ZV) to the Transducer Frame of Reference coordinate system (XX,YX, ZX).

Table 29

Synchronization Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0020,0200)	UI	1	Synchronization	1.2.840.10008.15.1.1

(0008,0064)	CS	1	Conversion Type	WSD
(0018,1010)	LO	3	Secondary Capture Device ID	DC-70
(0018,1016)	LO	3	Secondary Capture Device Manufacturer	MINDRAY
(0018,1018)	LO	3	Secondary Capture Device Manufacturer's Model Name	DC-70
(0018,1019)	LO	3	Secondary Capture Device Software Version(s)	AUTO

Table 32

Enhanced General Equipment Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,0070)	LO	1	Manufacturer	Mindray
(0008,1090)	LO	1	Model Name	DC-70
(0018,1000)	LO	1	Device Serial Number	The Ethernet card Mac Address
(0018,1020)	LO	3	Software Versions	AUTO

Table 33

General Image Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,0023)	DA	2C	Content Date	AUTO
(0008,0033)	TM	2C	Content Time	AUTO
(0008,2111)	ST	3	Derivation Description	CONFIG, default is set to zero length
(0020,0013)	IS	2	Instance Number	AUTO
(0020,0020)	CS	2C	Patient Orientation	Set to zero length
(0020,4000)	LT	3	Image Comments	Set to zero length
(0028,0301)	CS	3	Burned In Annotation	YES

Table 34

US Image Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,0008)	CS	2	Image Type	ORIGINAL/PRIMARY
(0018,5010)	LO	3	Transducer Data	USER
(0018,5020)	LO	3	Processing Function	USER
(0028,0002)	US	1	Samples per Pixel	1 or 3
[redacted]	CS	1	Photometric Interpretation	RGB，for color images; MONOCHROME2，if the image is grayscale; YBR_FULL_422，if the image is sent using JPEG. RGB，if the image is sent using JPEG Lossless. YBR_FULL，if the image is sent using RLE Lossless. YBR_ICT，if the image is sent using JPEG 2000 Image Compression. YBR_RCT，if the image is sent using JPEG 2000 Image Compression (Lossless Only)
[redacted]	US	1C	Planar Configuration	1, if the image is sent using RLE Lossless 0 otherwise.
AT	56 Tf1 (			

(0008,0012)	DA	3	Instance Creation Date	AUTO
(0008,0013)	TM	3	Instance Creation Time	AUTO
(0008,0016)	UI	1C	SOP Class UID	AUTO
(0008,0018)	UI	1C	SOP Instance UID	AUTO

Table 39

US Region Calibration Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS

Table 40

Cine Module Used for US Multi-Frame Images Only

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0008,2142)	IS	3	Start Trim	Set by the system
(0008,2143)	IS	3	Stop Trim	Set by the system
(0008,2144)	IS	3	Recommended Display Frame Rate	Set by the system
(0018,0040)	IS	3	Cine Rate	CONFIG
(0018,0072)	DS	3	Effective Duration	Set by the system
(0018,1063)	DS	1C	Frame Time	Set by the system
(0018,1065)	DS	1C	Frame Time Vector	Set by the system
(0018,1066)	DS	3	Frame Delay	Set by the system
(0018,1242)	IS	3	Actual Frame Duration	Set by the system
(0018,1244)	US	3	Preferred Playback Sequencing	Set by the system

Table 41

Multi-Frame Module Used for US Multi-Frame Images Only

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0028,0008)	IS	1	Number of Frames	AUTO
(0028,0009)	AT	1	Frame Increment Pointer	0018 1063 = Frame Time

Table 42

SC Equipment Module Used for Second Capture Images Only

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS

(0018,1018)	LO	3	Secondary Capture Device Manufacturer's Model Name	DC-70
(0018,1019)	LO	3	Secondary Capture Device Software Version(s)	AUTO

Table 43

SC Image Module Used for Second Capture Images Only

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0018,1012)	DA	3	Date of Secondary Capture	AUTO
(0018,1014)	TM	3	Time of Secondary Capture	AUTO

Table 44

Encapsulated Document Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0020,0013)	IS	1	Instance Number	AUTO
(0008,0023)	DA	2	Content Date	AUTO
(0008,0033)	TM	2	Content Time	AUTO
(0008,002A)	DT	2	Acquisition DateTime	AUTO
(0028,0301)	CS	1	Burned In Annotation	YES
(0042,0010)	ST	2	Document Title	The Title of the Document
(0040,A043)	SQ	2	Concept Name Code Sequence	Set to zero length
(0040,A493)	CS	3	Verification Flag	AUTO. UNVERIFIED = Not attested by a legally accountable person. VERIFIED = Attested to (signed) by a Verifying

Table 47

Multi-frame Functional Groups Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(5200,9229)	SQ	2	Shared Functional Groups Sequence	
(0028,9132)	SQ	1	> Frame VOI LUT Sequence	
(0028,1050)	DS	1	>>Window Center	Set by the system
(0028,1051)	DS	1	>>Window Width	Set by the system
(0020,930F)	SQ	1	>Plane Orientation (Volume) Sequence	
(0020,9302)				

			DateTime	
(0018,9074)	DT	1C	>>Frame Acquisition DateTime	Set by the system
(0018,9220)	FD	1C	>>Frame Acquisition Duration	Set by the system
(0020,9157)	UL	1C	>>Dimension Index Values	Set by the system
(0020,930E)	SQ	1	>Plane Position (Volume) Sequence	
(0020,9301)	FD	1	>>Image Position (Volume)	Set by the system
(0020,9310)	SQ	1	>Temporal Position Sequence	
(0020,930D)	FD	1	>>Temporal Position Time Offset	Set by the system
(0018,9807)	SQ	1	>Image Data Type Sequence	
(0018,9808)	CS	1	>>Data Type	Set by the system TISSUE_INTENSITY or FLOW_VELOCITY
(0018,980B)	CS	1	>>Aliased Data Type	NO
(0020,0013)	IS	1	Instance Number	AUTO
(0008,0023)	DA	1	Content Date	AUTO
(0008,0033)	TM	1	Content Time	AUTO
(0028,0008)	IS	1	Number of Frames	AUTO

Table 48

Multi-frame Dimension Module

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME

(0028,0103)	US	1	Pixel Representation	0
(0020,9311)	CS	1	Dimension Organization Type	3D or 3D_TEMPORAL :
(0008,002A)	DT	1	Acquisition Datetime	AUTO
(0018,9073)	FD	1	Acquisition Duration	Set by the system
(0028,0030)	DS	1	Pixel Spacing	Set by the system
(0018,980C)	CS	1C	Position Measuring Device Used	FREEHAND
(2050,0020)	CS	1	Presentation LUT Shape	IDENTITY
(0028,1052)	DS	1	Rescale Intercept	0
(0028,1053)	DS	1	Rescale Slope	1
(0028,0301)	CS	1	Burned In Annotation	NO
(0018,9809)	SQ	1	Transducer Scan Pattern Code Sequence	
>(0008,0100)	SH	1	Code Value	125242
>(0008,0102)	SH	1	Coding Scheme Designator	DCM
>(0008,0103)	SH	1	Coding Scheme Version	20090409
>(0008,0104)	LO	1	Code Meaning	Volume scan pattern
(0018,980D)	SQ	1	Transducer Geometry Code Sequence	
>(0008,0100)	SH	1	Code Value	125254
>(0008,0102)	SH	1	Coding Scheme Designator	DCM
>(0008,0103)	SH	1	Coding Scheme Version	20090409
>(0008,0104)	LO	1	Code Meaning	Sector ultrasound transducer geometry

(0018,980E)	SQ	1	Transducer Beam Steering Code Sequence	
>(0008,0100)	SH	1	Code Value	125258
>(0008,0102)	SH	1	Coding Scheme Designator	DCM
>(0008,0103)	SH	1	Coding Scheme Version	20090409
>(0008,0104)	LO	1	Code Meaning	Mechanical beam steering
(0018,980F)	SQ	1	Transducer Application Code Sequence	
>(0008,0100)	SH	1	Code Value	125261
>(0008,0102)	SH	1	Coding Scheme Designator	DCM
>(0008,0103)	SH	1	Coding Scheme Version	20090409
>(0008,0104)	LO	1	Code Meaning	External Transducer
(0018,5022)	DS	1	Mechanical Index	Set by the system
(0018,5024)	DS	1	Bone Thermal Index	Set by the system
(0018,5026)	DS	1	Cranial Thermal Index	Set by the system
(0018,5027)	DS	1	Soft Tissue Thermal Index	Set by the system
(0018,9801)	FD	1	Depth(s) of Focus	Set by the system
(0018,5050)	IS	1	Depth of Scan Field	Set by the system

Conventions used for the Value(s) and Comments section are:

MWL the attribute value source is from Modality WORKLIST

USER

AUTO automatically generated by the MODALITY system

CONFIG - the attribute value source is a configurable parameter

4.2.1.3.3 Activity Film Images

4.2.1.3.3.1 Description and Sequencing of Activities

A user composes images onto film sheets and requests them to be sent to a specific hardcopy device. The user can select the desired film format and number of copies. Each print-job is forwarded to the job queue and processed individually.

The system is invoked by the user on Send to UI if the print remote AE is pre-configured. Status of the print-job is reported through task management UI. If pre-configured on Preset UI, the failed print task will be automatically retried specified times. If no pre-configuration, the user can also retry manually. Only one task will be active at a time for each separate hardcopy device. The same as Storage, the system could retry

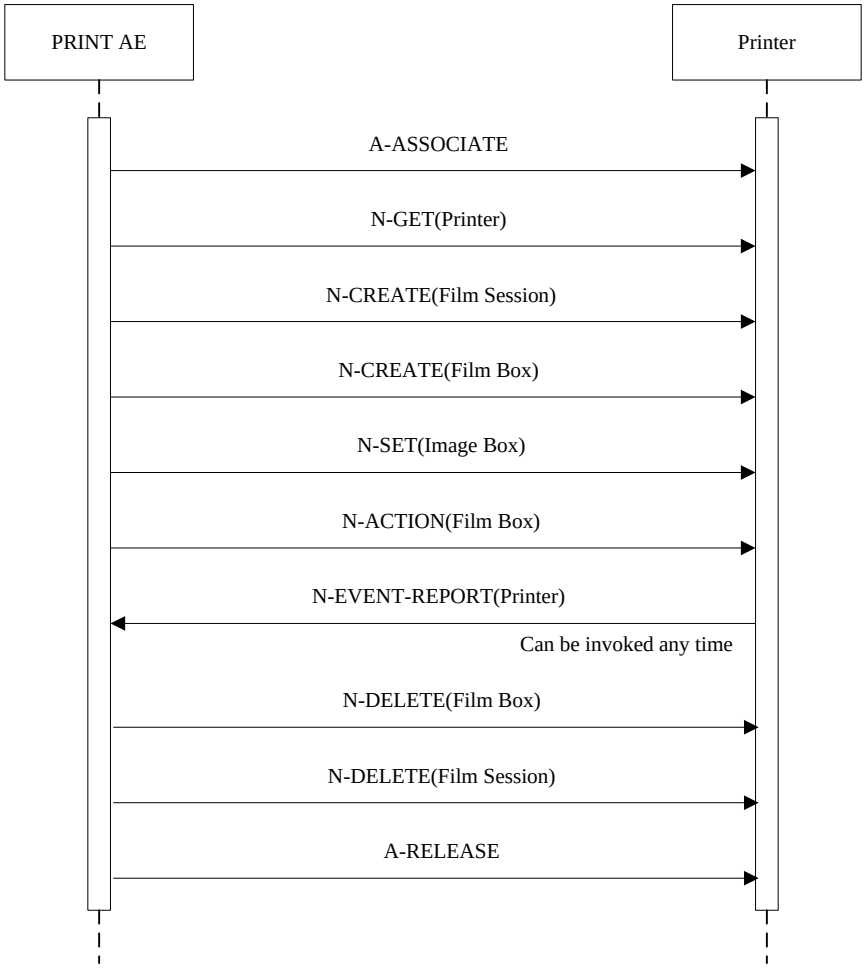

Figure 4
Sequencing of Activity Film Images

4.2.1.3.3.2 Proposed Presentation Contexts

Print AE is capable of proposing the Presentation Contexts shown in the Table below:

Table 50
Proposed Presentation Contexts for Activity Film Images

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Basic Grayscale Print Management Meta	1.2.840.10008.5.1.1.9	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None

Basic Color Print Management Meta	1.2.840.10008.5.1.1.18	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None

4.2.1.3.3.3

Print AE uses the Printer SOP Class N-GET operation to obtain information about the current printer status. The attributes excepted via N-GET are listed in the Table below:

Table 52
Printer SOP Class N-GET Request Attribute Identifier List

Attribute Name	Tag
Printer Status	(2110,0010)
Printer Status Info	(2110,0020)
Printer Name	(2110,0030)
Manufacturer	(0008,0070)
Manufacturer Model Name	(0008,1090)
Device Serial Number	(0018,1000)
Software Version(s)	(0018,1020)
Date of Last Calibration	(0018,1200)
Time of Last Calibration	(0018,1201)

The behavior of Print AE when encountering status codes in a N-GET response is summarized in the Table below:

Table 53
Printer SOP Class N-GET Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior

		application.
Failure	3	The print-job is marked as failed. The contents of Printer Status Info (2110, 0020) is logged and reported to the user via the job-control application.
*	*	An invalid Event Type ID will cause a status code of 0113H to be returned in a N-EVENT-REPORT response.

The reasons for returning specific status codes in a N-EVENT-REPORT response are summarized in the Table below:

Table 55

Printer SOP Class N-EVENT-REPORT Response Status Reasons

Service Status	Further Meaning	Error Code	Reasons
Success	Success	0000	The notification event has been successfully received.
Failure	No Such Event Type	0113H	An invalid Event Type ID was supplied in the N-EVENT-REPORT request.
Failure	Processing Failure	0110H	An internal error occurred during processing of the N-EVENT-REPORT. A short description of the error will be returned in Error Comment (0000, 0902).

4.2.1.3.3.5 SOP Specific Conformance for the Film Session SOP Class

Print AE supports the following DIMSE operations for the Film Session SOP Class:

N-CREATE

N-DELETE

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.1.3.3.5.1 Film Session SOP Class Operations (N-CREATE)

The attributes supplied in an N-CREATE Request are listed in the Table below:

Table 56

Film Session SOP Class N-CREATE Request Attributes

Attribute Name	Tag	VR	Value	Presence of Value	Source
Number of Copies	(2000,0010)	IS	[1, 100]	ALWAYS	CONFIG
Print Priority	(2000,0020)	CS	LOW, MED,HIGH	ALWAYS	CONFIG
Medium Type	(2000,0030)	CS	BLUE FILM, CLEAR FILM, PAPER	ALWAYS	CONFIG
Film	(2000,0040)	CS	MAGAZINE PROCESSOR	ALWAYS	CONFIG

Destination					

The behavior of Print AE when encountering status codes in a N-CREATE response is summarized in the Table below:

Table 57

Film Session SOP Class N-CREATE Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully.
Warning	Memory allocation not supported	B600	The N-CREATE operation is considered successful.
Warning	any warning	xxxx	The N-CREATE operation is considered successful.
Failure	any failure	xxxx	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.1.3.3.5.2 Film Session SOP Class Operations (N-DELETE)

The behavior of Print AE when encountering status codes in a N-DELETE response is summarized in the Table below:

Table 58

Printer SOP Class N-DELETE Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully.
Warning	Any warning	xxxx	The N-DELETE operation is considered successful.
Failure	Any failure	xxxx	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.1.3.3.6 SOP Specific Conformance for the Film Box SOP Class

Print AE supports the following DIMSE operations for the Film Box SOP Class:

N-CREATE

N-ACTION

N-DELETE

Details of the supported attributes and status handling behavior are described in the

following subsections.

4.2.1.3.3.6.1 Film Box SOP Class Operations (N-CREATE)

The attributes supplied in an N-CREATE Request are listed in the Table below:

Table 59
Film Box SOP Class N-CREATE Request Attributes

Attribute Name	Tag	VR	Value	Presence of Value	Source
Image Display Format	(2010,0010)	CS	PORTRAIT: STANDARD\1,1 STANDARD\1,2 STANDARD\1,3 STANDARD\2,1 STANDARD\2,2 STANDARD\2,3 STANDARD\2,4 STANDARD\3,3 STANDARD\3,4 STANDARD\3,5 STANDARD\3,6 STANDARD\4,4 STANDARD\4,5 STANDARD\4,6 STANDARD\4,7 STANDARD\4,8 STANDARD\5,5 STANDARD\5,6 STANDARD\5,7 STANDARD\5,8 STANDARD\6,6 STANDARD\6,7 STANDARD\6,8 STANDARD\6,9 STANDARD\6,10 STANDARD\7,7 STANDARD\7,8 STANDARD\7,9	ALWAYS	CONFIG

			STANDARD\7,10 STANDARD\8,8 STANDARD\8,9 STANDARD\8,10 LANDSCAPE: STANDARD\1,1 STANDARD\2,1 STANDARD\3,1 STANDARD\1,2 STANDARD\2,2 STANDARD\3,2 STANDARD\4,2 STANDARD\3,3 STANDARD\4,3 STANDARD\5,3 STANDARD\6,3 STANDARD\4,4 STANDARD\5,4 STANDARD\6,4 STANDARD\7,4 STANDARD\8,4 STANDARD\5,5 STANDARD\6,5 STANDARD\7,5 STANDARD\8,5 STANDARD\6,6 STANDARD\7,6 STANDARD\8,6 STANDARD\9,6 STANDARD\10,6 STANDARD\7,7 STANDARD\8,7 STANDARD\9,7 STANDARD\10,7 STANDARD\8,8 STANDARD\9,8		

			STANDARD\10,8		
Referenced Film Session Sequence	(2010,0500)	SQ		ALWAYS	AUTO
>Referenced SOP Class UID	(0008,1150)	UI	1.2.840.10008.5.1.1.1	ALWAYS	AUTO
>Referenced SOP Instance UID	(0008,1155)	UI	From created Film Session SOP Instance	ALWAYS	AUTO
Film Orientation	(2010,0040)	CS	PORTRAIT or LANDSCAPE	ALWAYS	CONFIG
Film Size ID	(2010,0050)	CS	8INX10IN 8_5INX11IN 10INX12IN 10INX14IN 11INX14IN 11INX17IN 14INX14IN 14INX17IN 24CMX24CM 24CMX30CM A4 A3	ALWAYS	CONFIG
Magnification Type	(2010,0060)	CS	REPLICATE, BILINEAR, CUBIC or NONE	ALWAYS	CONFIG
Max Density	(2010,0130)	US	0 .. 65535	ANAP	CONFIG
Min Density	(2010,0120)	US	0 .. 65535	ANAP	CONFIG
Trim	(2010,0140)	CS	YES or No	ALWAYS	CONFIG
Configuration Information	(2010,0150)	ST	User defit TJETQQ EMC q21T/F3 1(		

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully.
Warning	Requested Min Density or Max range	B605H	The N-CREATE operation is considered successful.
Warning	Any other warning	xxxx	The N-CREATE operation is considered successful.
Failure	There is an existing Film Box that has not been printed and N-ACTION at the Film Session level is not supported. A new Film Box will not be created when a previous Film Box has not been printed.	C616H	C The association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and the job failure is reported to the user.
Failure	Any failure	xxxx	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.1.3.3.6.2 Film Box SOP Class Operations (N-ACTION)

An N-ACTION Request is issued to instruct the Print SCP to print the contents of the Film Box. The Action Reply argument in an N-ACTION response is not evaluated.

The behavior of Print AE when encountering status codes in a N-ACTION response is summarized in the Table below:

Table 61

Film Box SOP Class N-ACTION Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully. The film

	size. The image has been cropped to fit.		considered successful.
Warning	Image size or Combined Print Image Size is larger than Image Box size. The image or combined Print Image has been decimated to fit.	B60AH	The N-ACTION operation is considered successful.
Warning	Any other warning	xxxx	The N-ACTION operation is considered successful.
Failure	Unable to create Print Job SOP Instance; print queue is full.	C602	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Image size is larger than Image Box size.	C603	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Combined Print Image Size is larger than Image Box size.	C613	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Any other failure	xxxx	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.1.3.3.6.3 Film Session SOP Class Operations (N-DELETE)

The behavior of Print AE when encountering status codes in a N-DELETE response is summarized in the Table below:

Table 62

Printer SOP Class N-DELETE Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully.
Warning	Any warning	xxxx	The N-DELETE operation is considered successful.

Failure	Any other failure	xxxx	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.1.3.3.7 SOP Specific Conformance for the Image Box SOP Class

Print AE supports the following DIMSE operations for the Image Box SOP Class:

N-SET

Details of the supported attributes and status handling behavior are described in the following subsections.

4.2.1.3.3.7.1 Image Box SOP Class Operations (N-SET)

The attributes supplied in an N-SET Request are listed in the Table below:

Table 63
Image Box SOP Class N-SET Request Attributes

Attribute Name	Tag	VR	Value	Presence of Value	Source
Image Position	(2020,0010)	US	[1, num_image1]	ALWAYS	AUTO
Basic Grayscale Image Sequence	(2020,0111)	SQ		If the service is configured as MONOCHROME2	AUTO
>Samples Per Pixel	(0028,0002)	US	1	ALWAYS	AUTO
>Photometric Interpretation	(0028,0004)	CS	MONOCHROME2	ALWAYS	CONFIG
>Rows	(0028,0010)	US	Depends on film size	ALWAYS	AUTO
>Columns	(0028,0011)	US	Depends on film size	ALWAYS	AUTO
Pixel Aspect Ratio	(0028,0034)	IS	Set to zero length	VNAP	AUTO
>Bits Allocated	(0028,0100)	US	8	ALWAYS	AUTO
>Bits Stored	(0028,0101)	US	8	ALWAYS	AUTO
>High Bit	(0028,0102)	US	7	ALWAYS	AUTO
>Pixel Representation	(0028,0103)	US	0	ALWAYS	AUTO
>Pixel Data	(7FE0,0010)	OB	Pixels of rendered film sheet	ALWAYS	AUTO
Basic Color Image Sequence	(2020,0111)	SQ			

Pixel					
>Photometric Interpretation	(0028,0004)	CS	RGB	ALWAYS	CONFIG
>Planar Configuration	(0028,0006)	US	1	ALWAYS	AUTO
>Rows	(0028,0010)	US	Depends on film size	ALWAYS	AUTO
>Columns	(0028,0011)	US	Depends on film size	ALWAYS	AUTO
Pixel Aspect Ratio	(0028,0034)	IS	Set to zero length	VNAP	AUTO
>Bits Allocated	(0028,0100)	US	8	ALWAYS	AUTO
>Bits Stored	(0028,0101)	US	8	ALWAYS	AUTO
>High Bit	(0028,0102)	US	7	ALWAYS	AUTO
>Pixel Representation	(0028,0103)	US	0	ALWAYS	AUTO
>Pixel Data	(7FE0,0010)	OB	Pixels of rendered film sheet	ALWAYS	AUTO

Note 1 If the attribute of Image Display Format is (STANDARD\m, n), num_image is m*n.

The behavior of Print AE when encountering status codes in a N-SET response is summarized in the Table below:

Table 64

Image Box SOP Class N-SET Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	Image print is successful, The status code is logged and the task success is reported to the user via task management.
Warning	Image size is larger than Image Box size. The image has been demagnified.	B604H	The N-SET operation is considered successful.
Warning	Requested Min Density or Max operating range.	B605H	The N-SET operation is considered successful.
Warning	Image size is larger than Image Box size. The image has been cropped to fit.	B609H	The N-SET operation is considered successful.

Warning	Image size or Combined Print Image Size is larger than Image Box size. The image or combined Print Image has been decimated to fit.	B60AH	The N-SET operation is considered successful.
Warning	Any other warning	xxxx	The N-SET operation is considered successful.
Failure	Image size is larger than Image Box size.	C603	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Insufficient memory in printer to store the image.	C605	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Combined Print Image Size is larger than Image Box size.	C613	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.
Failure	Any other failure	xxxx	The Association is aborted using A-ABORT and the print-job is marked as failed. The status meaning is logged and reported to the user.

4.2.1.3.4 Activity Send Find Request

4.2.1.3.4.1 Description and Sequencing of Activities

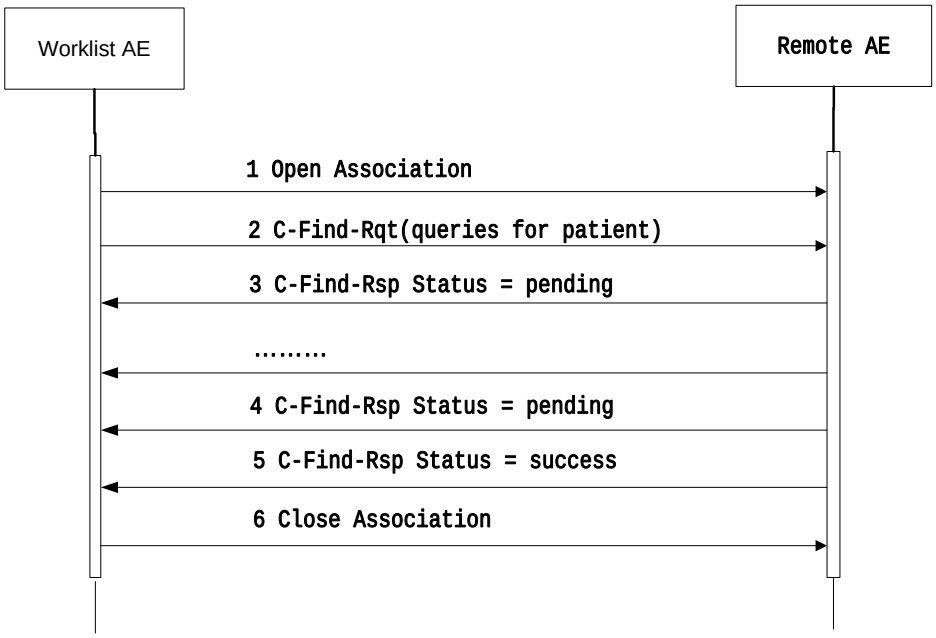

Figure 5

Sequencing of Activity Send FIND Request

A possible sequence of interactions between the Worklist AE and a remote AE (e.g. a system such as a RIS or HIS; or a PACS) is illustrated in the Figure below:

1. The Worklist AE opens an association with the remote AE
2. The Worklist AE sends a C-FIND request to the remote AE containing the Query attributes.
3. The remote AE returns a C-FIND response containing the requested attributes of the first matching Item.
4. The remote AE returns another C-FIND response containing the requested attributes of the second matching Item. And then another one.
5. When the remote AE returns all the C-FIND responses with status Success indicating that no further matching Items exist.
6. The C-Find AE closes the association with the remote AE.

4.2.1.3.4.2 Proposed Presentation Contexts

Table 65

Proposed Presentation Contexts for Worklist AE

Presentation Context Table			
Abstract Syntax	**Transfer Syntax**	**Role**	**Extended**
Name			**Negotiation**

			processing.
*	The Association is aborted using A-ABORT and the query is marked as failed. The status meaning is logged and reported to the user if an interactive query. Any additional error information in the Response will be logged.	Any other status code.	The association is aborted using A-ABORT and a notify message is displayed: Some errors happen when query worklist server.

Worklist AE provides Standard Conformance to the Storage Service Class.

Worklist AE will behave as described in the Table 66 in response to the status returned in the C-FIND response command message.

The behavior of Ultrasound System during communication failure is summarized in the Table below.

Table 67

COMMUNICATION FAILURE BEHAVIOR FOR WORKLIST AE

Exception	Behavior
Timeout	The Association is aborted using A-ABORT and the worklist marked as failed. The reason is logged and reported to the user if an interactive query.
Association aborted by the SCP or network layers	The query is marked as failed. The reason is logged and reported to the user if an interactive query.

The Table below provides a description of the Ultrasound system Query Request Identifier and specifies the attributes that are copied into the images. Unexpected attributes returned in a C-FIND response are ignored.

Requested return attributes not supported by the SCP are set to have no value. Non-matching responses returned by the SCP due to unsupported optional matching keys are ignored. No attempt is made it filter out possible duplicate entries.

Table 68

Worklist Request Identifier

ATTRIBUTE	VR	ATTRIBUTE NAME	MATCHING KEYS	RETURN KEYS
Module: Patient Identification Module (M)				
(0010,0010)	PN	Patient's Name	configurable	X (DI)
(0010,0020)	LO	Patient ID	configurable	X(DI)
(0010,1000)	LO	Other Patient IDs		X (DI)
Module: Patient Demographic Module (M)				
(0010,0030)	DA	Patient's Birth Date		X(DI)
(0010,0032)	TM	Patient's Birth Time		X(DI)

(0010,0040)	CS	Patient's Sex		X(DI)
(0010,1020)	DS	Patient's Size		X (DI)
(0010,1030)	DS	Patient's Weight		X (DI)
(0010,2160)	SH	Ethnic Group		X (DI)
(0010,4000)	LT	Patient Comments		X (DI)
(0040,3001)	LO	Confidentiality constraint on patient data Description		X (DI)
Module: Patient Medical Module (M)				
(0010,2000)	LO	Medical Alerts		X (DI)
(0010,2110)	LO	Contrast Allergies		X (DI)
(0010,21B0)	US	History		X (DI)
(0010,21C0)	US	Pregnancy Status		X (DI)
(0010,21D0)	DA	Last Menstrual Date		X (DI)
(0038, 0050)	LO	Special Needs		X (DI)
(0038, 0500)	LO	Patient State		X (DI)

Module: Visit Relationship Module (M)

>(0040,0001)	AE	Scheduled Station AE Title	configurable	X (DI)
>(0040,0002)	DA	Scheduled Procedure Step Start Date	configurable and the default is set to	X(DI)
>(0040,0003)	TM	Scheduled Procedure Step Start Time		X (DI)
>(0040,0004)	DA	Scheduled Procedure Step End Date		X (DI)
>(0040,0005)	TM	Scheduled Procedure Step End Time		X (DI)
>(0040,0006)	PN	Scheduled Performing Physician's Name		X (DI)
>(0040,0007)	LO	Scheduled Procedure Step Description		X(DI)
>(0040,0008)	SQ	Scheduled Protocol Code Sequence		X (DI)
> >(0008,0100)	SH	Code Value		X (DI)
> >(0008,0102)	SH	Coding Scheme Designator		X (DI)
> >(0008,0103)	SH	Coding Scheme Version		X (DI)
> >(0008,0104)	LO	Code Meaning		X (DI)
>(0040,0009)	SH	Scheduled Procedure Step ID		X (DI)
>(0040,0010)	SH	Scheduled Station Name		X (DI)
>(0040,0011)	SH	Scheduled Procedure Step Location		X (DI)
>(0040,0012)	LO	Pre-Medication		X (DI)
> (0040,0020)	CS	Scheduled Procedure Step Status		X (DI)
> (0040,0400)	LT	Comments on the Scheduled Procedure Step		X (DI)
Module: Requested Procedure Module (M)				
(0008,1110)	SQ	Referenced Study		X (DI)

Sequence

(0008,0032)	TM	Acquisition Time		X (DI)

The convention used for Matching Keys is:

X - Return keys. An " X " indicates that MODALITY supplies this attribute as a Return Key with zero length for Universal Matching.

DI Display to the user.

4.2.1.3.5 Activity Send MPPS Request

4.2.1.3.5.1 Description and Sequencing of Activities

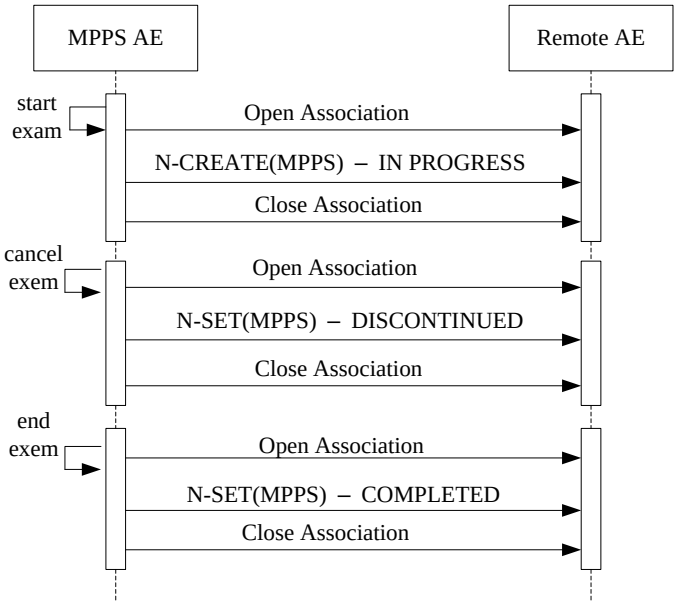

Figure 6

Sequencing of Activity MPPS progress

A possible sequence of interactions between the MPPS AE and a Remote AE(Departmental Scheduler, e.g. a device such as a RIS or HIS which supports the MPPS SOP Class as an SCP) is illustrated in Figure B.4.2-4:

1. The MPPS AE opens an association with the Remote AE.
2. The MPPS AE sends an N-CREATE request to the Remote AE to create an MPPS

   Remote AE acknowledges the MPPS creation with an N-CREATE response (status success).
3. The MPPS AE closes the association with the Remote AE.
4. All images are acquired and stored in the local database.
5. The MPPS AE opens an association with the Remote AE.
6. The MPPS AE sends an N-SET request to the Remote AE to update the MPPS The Departmental Scheduler acknowledges the MPPS update with an N-SET response (status success).
7. The MPPS AE closes the association with the Remote AE.

Note: The Cancel and End Exam commands are mutually exclusive. They are both represented here for illustration purposes only. Actual workflow uses one or the other for a given exam.

For each exam step transfer, an attempt will be made to transmit it to the selected remote AE. If it fails, it will automatically retry specific times if configured on Preset UI..

4.2.1.3.5.2 Proposed Presentation Contexts

Table 69
Proposed Presentation Contexts for MPPS AE

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name**	**UID**		
Modality Performed Procedure Step SOP Class	1.2.840.10008.3.1.2.3.3	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None

MPPS-SCU will propose Presentation Contexts for the SOP Classes listed above. For these SOP Class, MPPS-SCU will propose multiple Presentation Contexts, one for each of the supported Transfer Syntaxes.

If MPPS AE is offered a choice of Transfer Syntaxes in the accepted Presentation Contexts, it will apply the first encountered to use for the MPPS AE operation.

4.2.1.3.5.3 SOP Specific Conformance

MPPS AE provides Standard Conformance to the MPPS Service Class.

MPPS-SCU will behave as described in the Table below in response to the status returned in the N-Create or N-Set response command message.

Table 70
MPPS N-CREATE / N-SET Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The SCP has completed the operation successfully.
Failure	Processing Failure Performed Procedure Step Object may no longer be updated	0110	The Association is aborted using A-ABORT and the MPPS is marked as failed. The status meaning and Additional information in the Response is logged (i.e. Error Comment and Error ID).
Warning	Attribute Value Out of Range	0116H	The MPPS operation is considered successful but the status meaning is logged. Additional information in

			the Response identifying the attributes out of range will be logged (i.e. Elements in the Modification List/Attribute List)
*	*	Any other status code.	The Association is aborted using A-ABORT and the MPPS is marked as failed. The status meaning is logged.

The behavior of MPPS AE during communication failure is summarized in the Table below:

Table 71

MPPS COMMUNICATION FAILURE BEHAVIOR

Exception	Behavior
Timeout	The Association is aborted using A-ABORT and MPPS marked as failed. The reason is logged.
Association aborted by the SCP or network layers	The MPPS is marked as failed. The reason is logged.

Table below provides a description of the MPPS N-CREATE and N-SET request identifiers sent by ultrasound system. Empty cells in the N-CREATE and N-SET columns indicate

Table 72

MPPS N-CREATE / N-SET Request Identifier

Attribute Name	Tag	Req. Type N-CREATE	Req. Type N-SET
Module: Performed Procedure Step Relationship Module (M)			
Referenced Patient Sequence	(0008,1120)	2 (Default is set to null)	Not allowed
	(0010,0010)	2	Not allowed
Patient ID	(0010,0020)	2	Not allowed
	(0010,0030)	2	Not allowed
	(0010,0040)	2	Not allowed
Scheduled Step Attribute Sequence	(0040,0270)	1	Not allowed
>Accession Number	(0008,0050)	2	Not allowed
>Referenced Study Sequence	(0008,1110)	2	Not allowed
>Study Instance UID	(0020,000D)	1	Not allowed

>Requested Procedure Description	(0032,1060)	2	Not allowed
>Scheduled Procedure Step Description	(0040,0007)	2	Not allowed
>Scheduled Protocol Code Sequence	(0040,0008)	2	Not allowed
>Scheduled Procedure Step ID	(0040,0009)	2	Not allowed
>Requested Procedure ID	(0040,1001)	2	Not allowed
Module: Image Acquisition Results Module (M)			
Modality	(0008,0060)	1	Not allowed
Study ID	(0020,0010)	2	Not allowed
Performed Protocol Code Sequence	(0040,0260)	2 (Default is set to null)	3
Performed Series Sequence	(0040,0340)	2	3
>Retrieve AE Title	(0008,0054)	2 (Default is set to null)	2
>Series Description	(0008,103E)	2 (Default is set to null)	2
	(0008,1050)	2	2
	(0008,1070)	2	2
>Referenced Image Sequence	(0008,1140)	2	2
>Protocol Name	(0018,1030)	1	1
>Series Instance UID	(0020,000E)	1	1
>Referenced Non-Image Composite SOP Instance Sequence	(0040,0220)	2 (Default is set to null)	2
Module: Billing And Material Management Code Module (M)			
Billing Procedure Step Sequence	(0040,0320)	3	3
Film Consumption Sequence	(0040,0321)	3	3
Billing Supplies and Devices Sequence	(0040,0324)	3	3
Module: Performed Procedure Step Information Module (M)			
Procedure Code Sequence	(0008,1032)	2 (Default is set to null)	3
Performed Station AE Title	(0040,0241)	1	Not allowed
Performed Station Name	(0040,0242)	2 (Default is set to null)	Not allowed
Performed Location	(0040,0243)	2 (Default is set to null)	Not allowed
Performed Procedure Step Start	(0040,0244)	1	Not allowed

4.2.1.3.6 Activity Query/Retrieve from Remote AE

4.2.1.3.6.1 Description and Sequencing of Activities for SCU

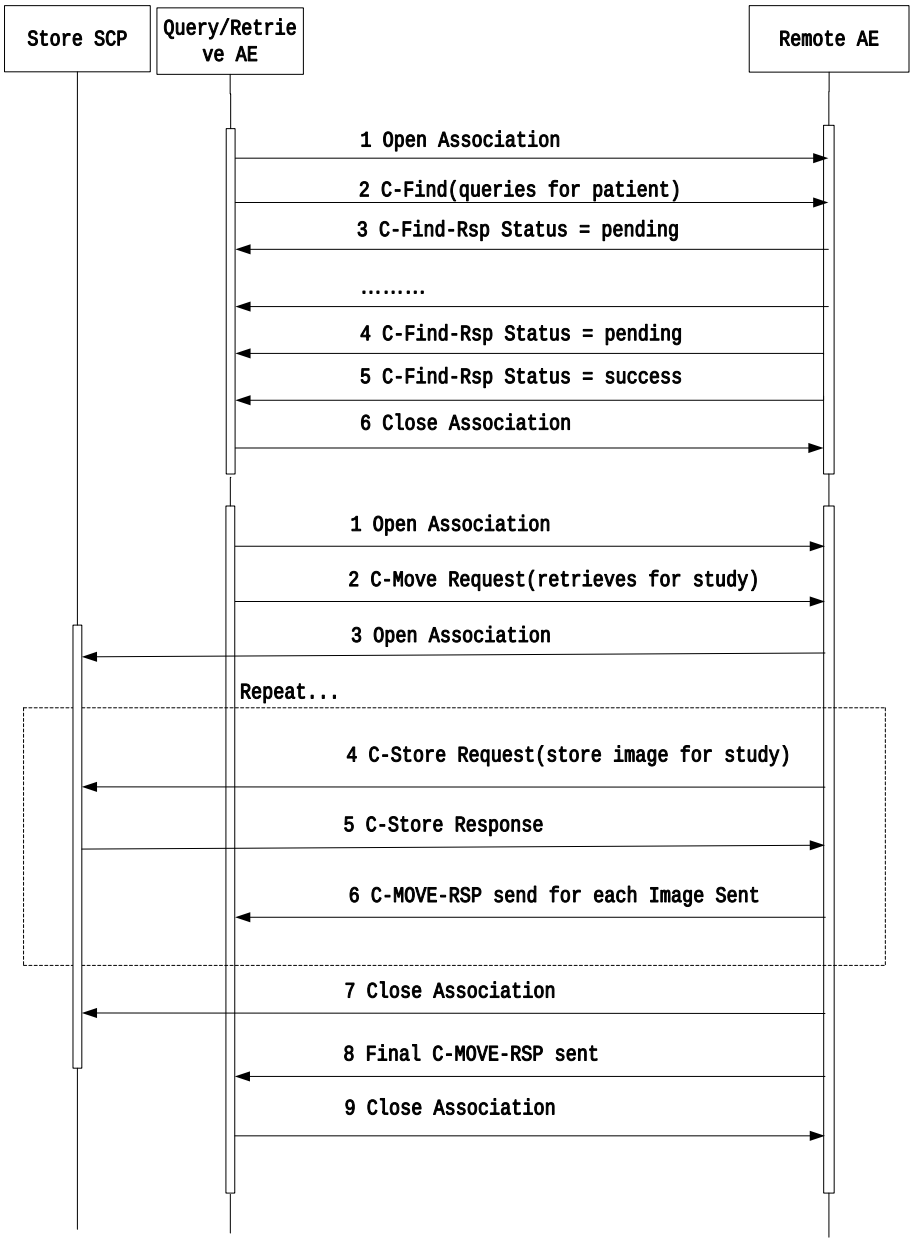

Figure 7

Sequencing of Activity Query/Retrieve progress

The associated Real-World activity is a C-Find request initiated by the user. The user specifies some attributes the system should use to query its database. If the query user successfully establishes an association to the remote AE, it will send a C-Find request (according to the query model) and will then return the results to the application.

The C-MOVE-RQs are used to retrieve the referenced instances. The Query/Retrieve AE supports the Study Root Information Model.

4.2.1.3.6.2 Proposed Presentation Contexts

Table 73
Proposed Presentation Contexts for Query/Retrieve AE

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name**	**UID**		
Study Root Query/Retrieve Information Model - Find	1.2.840.10008.5.1.4.1.2.2.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None
Study Root Query/Retrieve Information Model - Move	1.2.840.10008.5.1.4.1.2.2.2	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCU	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCU	None

4.2.1.3.6.3 SOP Specific Conformance

The ultrasound system provides Standard Conformance to the DICOM Query/Retrieve Class.

4.2.1.3.6.3.1 Response Status

Query/Retrieve AE will behave as described in the Table below in response to the status returned in the C-Find response command message.

Table 74
C-Find Response Status Handling Behavior

Service Status	Meaning	Protocol Codes	Related Fields	Behavior (as SCU)
Refused	Refused Out of Resources	A700	(0000,0902)	The association is aborted using A-ABORT and a notify message is displayed: The remote server error.
Failed	Identifier does not match SOP Class	A900	(0000,0901) (0000,0902)	
	Unable to process	CXXX	(0000,0901) (0000,0902)	
Canceling	Matching terminated due to Cancel request	FE00	None	
Success	Matching is complete - No	0000	None	Patient lists show on

	final Identifier is supplied			the UI
Pending	Matches are continuing - Current Match is supplied and any Optional Keys were supported in the same manner as Required Keys	FF00	Identifier	/
	Matches are continuing - Warning that one or more Optional Keys were not supported for existence and/or matching for this identifier	FF01	Identifier	/

The ultrasound system supports the following query levels:

Study

The Query/Retrieve AE interprets following status codes

Table 75

C-Move Response Status Handling Behavior

Service Status	Meaning	Protocol Codes	Related Fields	Behavior (as SCU)
Refused	Refused Out of Resources	A700	(0000,0902)	The association is aborted using A-ABORT and a notify message is displayed: The remote server error.
Failed	Identifier does not match SOP Class	A900	(0000,0901) (0000,0902)	
	Unable to process	CXXX	(0000,0901) (0000,0902)	
Canceling	Matching terminated due to Cancel request	FE00	None	
Success	Matching is complete - No final Identifier is supplied	0000	None	Image retrieve is successful, Patient lists show on the UI
Pending	Matches are continuing - Current Match is supplied and any Optional Keys were supported in the same manner as Required Keys	FF00	Identifier	/
	Matches are continuing - Warning that one or more Optional Keys were not supported for existence and/or matching for this identifier	FF01	Identifier	/

4.2.1.3.6.3.2 Study Root Query/Retrieve Attributes

4.2.1.3.6.3.3 Supported Matching

(0010,2160)	SH	O	Ethnic Group		N
(0010,2180)	SH	O	Occupation		N
(0010,21B0)	LT	O	Additional Patient History		N
(0010,4000)	LT	O	Patient Comments		N
(0020,1070)	IS	O	Other Study Numbers		N
(0020,1200)	IS	O	Number of Patient Related Studies		N
(0020,1202)	IS	O	Number of Patient Related Series		N
(0020,1204)	IS	O	Number of Patient Related Instances		N
(0020,1206)	IS	O	Number of Study Related Series		N
(0020,1208)	IS	O	Number of Study Related Instances		N
(4008,010C)	PN	O	Interpretation Author		N
Module: Additional Attributes Module (O)					
(0008,0062)	UN	O	SOP Classes in Study		N

4.2.1.3.6.3.5 Series Level Attributes

Table 77

SERIES LEVEL ATTRIBUTES

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE	MATCHINGKEYS
Module: Study Root Information Model (M)					
(0020,000D)	UI	U	Study Instance UID		S
(0020,000E)	UI	U	Series Instance UID		N
(0008,0060)	CS	R	Modality		N
(0020,0011)	IS	R	Series Number		N
(0020,1209)	IS	O	Number of Series Related Instances		N
Module: Additional Attributes Module (O)					
(0008,0021)	DA	O	Series Date		N
(0008,0031)	TM	O	Series Time		N

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE	MATCHINGKEYS
Module: Study Root Information Model (M)					
(0020,000D)	UI	U	Study Instance UID		S
(0020,000E)	UI	U	Series Instance UID		S
(0008,0018)	UI	U	SOP Instance UID		N
(0020,0013)	IS	R	Instance Number		N
Module: Additional Attributes Module (O)					
(0008,0016)	UI	O	SOP Class UID		N
(0008,001A)	UI	O	Related General SOP Class UID		N
(0008,3001)	SQ	O	Alternate Representation Sequence		N
>(0008,1150)	UI	O	Referenced SOP Class UID		N
>(0008,1155)	UI	O	Referenced SOP Instance UID		N
>(0020,000E)	UI	O	Series Instance UID		N
>(0040,A170)	SQ	O	Purpose of Reference Code Sequence		N
>>(0008,0100)	SH	O	Code Value		N
>>(0008,0102)	SH	O	Coding Scheme Designator		N

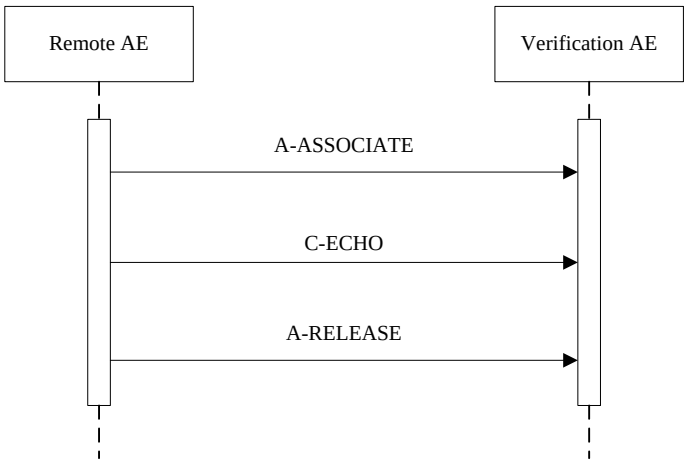

Figure 8
Sequencing of Activity Receive Echo Request

4.2.1.4.1.2 Accepted Presentation Contexts

It will accept Presentation Contexts as shown in the following table:

Table 79
Proposed Presentation Contexts for Activity Verification

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Extended Negotiation**
Name	**UID**	**Name**	**UID**		
Verification	1.2.840.10008.1.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None

4.2.1.4.1.3 SOP Specific Conformance

The Application conforms to the definition of a Verification SCP in accordance with the DICOM Standard.

4.2.1.4.2 Activity Receive Storage

4.2.1.4.2.1 Description and Sequencing of Activities

The system could act as Sorage SCP in Query/Retrieve, otherwise couldn't. A possible sequence of interactions between the Storage AE (as SCP) and a remote AE is illustrated in the Figure 7.

4.2.1.4.2.2 Accepted Presentation Contexts

The Storage AE (as SCP) will accept Presentation Contexts as shown in the Table below.

Table 80

Proposed Presentation Contexts for Storage

PROPOSED PRESENTATION CONTEXTS					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name**	**UID**		
US Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCP	None
		RLE Lossless	1.2.840.10008.1.2.5	SCP	None
		JPEG 2000 Image Compression (2.95 0.72 78.(			

Capture Image Storage	08.5.1.4.1.1.7	Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCP	None
		RLE Lossless	1.2.840.10008.1.2.5	SCP	None
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCP	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCP	None
Comprehensive Structured Report Storage	1.2.840.10008.5.1.4.1.1.88.33	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70	SCP	None
		RLE Lossless	1.2.840.10008.1.2.5	SCP	None
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCP	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCP	None
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCP	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1	SCP	None
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50	SCP	None
		Explicit VR Big Endian	1.2.840.10008.1.2.2	SCP	None
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection	1.2.840.10008.1.2.4.70	SCP	None

		Value 1])			
		RLE Lossless	1.2.840.10008.1.2.5	SCP	None
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90	SCP	None
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91	SCP	None

Note The sytem could not support to brower the Encapsulated PDF.

4.2.1.4.2.3 SOP Specific Conformance

The Application conforms to the definition of a Storage SCP in accordance with the DICOM Standard.

4.2.1.4.3 Activity Receive Storage Commitment

4.2.1.4.3.1 Description and Sequencing of Activities

A possible sequence of interactions between the Storage Commitment AE and a remote AE is illustrated in the Figure 3

Sequencing of Activity Send Storage Request.

4.2.1.4.3.2 Accepted Presentation Contexts

The Storage Commitment AE will accept Presentation Contexts as shown in the Table below.

Table 81

Acceptable Presentation Contexts for

Activity Receive Storage Commitment Response

Presentation Context Table					
Abstract Syntax		**Transfer Syntax**		**Role**	**Ext. Neg.**
Name	**UID**	**Name List**	**UID List**		
Storage Commitment Push Model	1.2.840.10008.1.20.1	Implicit VR Little Endian	1.2.840.10008.1.2	SCU	None
		Explicit VR Little Endian	1.2.840.10008.1.2.1		None
		Explicit VR Big Endian	1.2.840.10008.1.2		

is summarized in the Table below:

Table 82

Storage Commitment N-ACTION Response Status Handling Behavior

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The request for storage comment is considered successfully sent. The ultrasound system waits for the N-EVENT-REPORT in background.
*	*	Any other status code.	The request for storage comment is failed.

The behavior of Storage Commitment AE during communication failure is summarized in the Table below:

Table 83

Storage Commitment Communication Failure Behavior

Exception	Behavior
Timeout	The Association is aborted using A-ABORT and the send job is marked as failed.
Association aborted by the SCP or network layers	The send job is marked as failed.

4.2.1.4.3.3.2 Storage Commitment Tags (N-ACTION)

The Storage Commitment AE will request storage commitment using the following tags

NOTE: Storage Commitment may only be automatically requested upon successful completion of an end exam storage task,

Table 84

Storage Commitment N-Action-Request Message Contents

Action Type Name	Event Type ID	Attribute	Tag
N-ACTION-RQ (M)	1	Requested SOP Class UID	(0000,0003)
		Requested SOP Instance UID	(0000,1001)
Module: Additional Attributes Module (O)	3	Instance Creation Date	(0008,0012)
		Instance Creation Time	(0008,0013)
Request Storage Commitment	1	Transaction UID	(0008,1195)
		Referenced SOP Sequence	(0008,1199)
		>Referenced SOP Class UID	(0008,1150)
		>Referenced SOP Instance UID	(0008,1155)

4.2.1.4.3.3.3 Storage Commitment Notifications (N-EVENT-REPORT)

The reasons for returning specific status codes in a N-EVENT-REPORT response are

summarized in the Table below.

Table 85

Storage Commitment N-EVENT-REPORT Response Status Reasons

Service Status	Further Meaning	Error Code
Success	N-EVENT-REPORT message operate success.	0000
Failed	N-EVENT-REPORT message operate failed.	0110

4.2.1.4.3.3.4 Storage Commitment Tags (N-EVENT- REPORT)

Tags supported for receiving an N-Event-Report message.

Table 86

Storage Commitment N-Event-Report Message Contents

EVENT TYPE NAME	EVENT TYPE ID	ATTRIBUTE	TAG	REQUIREMENT TYPE SCP
Storage Commitment Request Successful	1	Transaction UID	(0008,1195)	1
		Referenced SOP Sequence	(0008,1199)	1
		>Referenced SOP Class UID	(0008,1150)	1
		>Referenced SOP Instance UID	(0008,1155)	1
Storage Commitment Request Complete Failures Exist	2	Transaction UID	(0008,1195)	1
		Referenced SOP Sequence	(0008,1199)	1
		>Referenced SOP Class UID	(0008,1150)	1
		>Referenced SOP Instance UID	(0008,1155)	1
		Failed SOP Sequence	(0008,1198)	1
		>Referenced SOP Class UID	(0008,1150)	1
		>Referenced SOP Instance UID	(0008,1155)	1
		>Failure Reason	(0008,1197)	1

4.3 Network Interface

4.3.1 Supported Communications Stacks

Modality DICOM AEs provide DICOM 3.0 TCP/IP Network Communication Support as defined in Part 8 of the DICOM Standard.

4.3.2 TCP/IP Stack

Modality DICOM AEs inherit their TCP/IP stack from the Windows 10 Operating System upon which they execute.

4.3.3 Physical Network Interface

Modality supports a single network interface. One of the following physical network interfaces will be available depending on installed hardware options:

Table 87
Supported Physical Network Interfaces

ETHERNET 1000BASET
Ethernet 100baseT
Ethernet 10baseT

4.3.4 Additional Protocols

Modality does not support additional protocols.

4.4 Configuration

The Configuration Utility allows the service engineer to set and maintain configuration parameters of local and remote DICOM application entities.

4.4.1 AE Title/Presentation Address Mapping

This mapping (including IP and port numbers) is defined during the system Network Configuration procedure.

4.4.2 Configurable Parameters

Localhost DICOM Service Property(Including SCU and SCP):

- AE Title
- Port
- PDU

Server Setting:

- Device
- IP address

Storage:

- Device, Service name, AE Title and Port.
- Timeout.
- Maximum retries. (default value is 3)
- Interval Time (In this version, this parameter is not usable.)
- Compression Mode, Compression Ratio.
- Color Mode (Color, Mixed, or Gray).
- Cine Zoom Mode (original or 640*480)
- Allow Multiframe(Enable or not)
- Max Framerate(options(25, 30, 35, full), or other inputed valid value)
- 3D/4D(Normal, Rawdata or Volume)
- SR Storage Option(Attach SR When Store Images， Only Store SR，and Not Store SR")
- Encapsulated PDF(Enable or not)
- Storage Mode(Parallel file or Parallel frame)
- Default Service Status (Y/N)

Print:

- Device, Service name, AE Title and Port .
- Timeout.
- Maximum retries. (default value is 3)
- Interval Time (In this version, this parameter is not usable.)
- Media Type: PAPER, CLEAR FILM, or BLUE FILM
- Film Size:
  - 8INX10IN
  - 8_5INX11IN
  - 10INX12IN
  - 10INX14IN
  - 11INX14IN
  - 11INX17IN
  - 14INX14IN

- Min Density:0-65535
- Settings: RGB or MONOCHROME2
- Display Format:
  - ✧ PORTRAIT:

    STANDARD\1,1
    STANDARD\1,2
    STANDARD\1,3
    STANDARD\2,1
    STANDARD\2,2
    STANDARD\2,3
    STANDARD\2,4
    STANDARD\3,3
    STANDARD\3,4
    STANDARD\3,5
    STANDARD\3,6
    STANDARD\4,4
    STANDARD\4,5
    STANDARD\4,6
    STANDARD\4,7
    STANDARD\4,8
    STANDARD\5,5
    STANDARD\5,6
    STANDARD\5,7
    STANDARD\5,8
    STANDARD\6,6
    STANDARD\6,7
    STANDARD\6,8
    STANDARD\6,9
    STANDARD\6,10
    STANDARD\7,7
    STANDARD\7,8
    STANDARD\7,9
    STANDARD\7,10
    STANDARD\8,8
    STANDARD\8,9
    STANDARD\8,10

  - ✧ LANDSCAPE:

STANDARD\1,1
STANDARD\1,1
STANDARD\2,1
STANDARD\3,1
STANDARD\1,2
STANDARD\2,2
STANDARD\3,2
STANDARD\4,2
STANDARD\3,3
STANDARD\4,3
STANDARD\5,3
STANDARD\6,3
STANDARD\4,4
STANDARD\5,4
STANDARD\6,4
STANDARD\7,4
STANDARD\8,4
STANDARD\5,5
STANDARD\6,5
STANDARD\7,5
STANDARD\8, 5
STANDARD\6,6
STANDARD\7,6
STANDARD\8,6
STANDARD\9,6
STANDARD\10,6
STANDARD\7,7
STANDARD\8,7
STANDARD\9,7
STANDARD\10,7
STANDARD\8,8
STANDARD\9,8
STANDARD\10,8

- Destination: MAGAZINE or PROCESSOR
- Film Orientation: LANDSCAPE

- Magnification Type: NONE, CUBIC, REPLICATE, or BILINEAR
- Trim: Yes/Not
- Default Status (Y/N)

WORKLIST:

- Device, Service name, AE Title and Port .
- Timeout.
- Maximum retries, Interval Time (In this version, these two parameters are not usable.)
- Default Status (Y/N)

MPPS:

- Device, Service name, AE Title and Port.
- Timeout,
- Maximum retries (default value is 3)
- Interval Time (In this version, this parameter is not usable.)
- Default Status (Y/N)

Storage Commitment:

- Device, Service name, AE Title and Port.
- Timeout.
- Maximum retries, Interval Time (In this version, these two parameters are not usable.)
- Associated Storage Service
- Default Status (Not available)

Query/Retrieve

- Device, Service name, AE Title and Port.
- Timeout.
- Maximum retries, Interval Time (In this version, these two parameters are not usable.)
- Default Status (Y/N)

5 Media Storage

5.1 Implementation Model

5.1.1 Application Data Flow

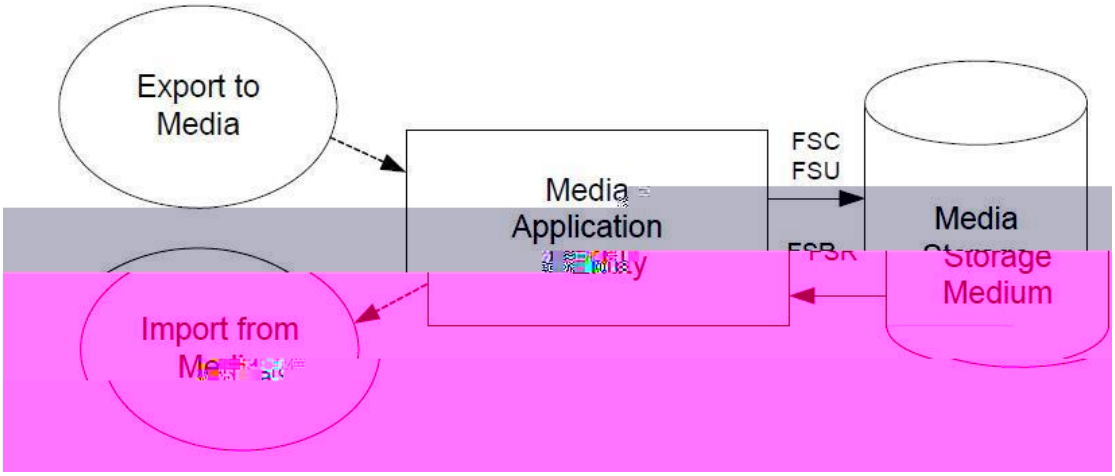

Figure 9

Application Data Flow Diagram for Media Storage

The Media Application Entity exports Images and Structured Reports to a removable storage medium. It is associated with the local real- Backup he configured export selection parameters for selected Structured Reports).

5.1.2

5.1.2.1 Functional Definition of Media Application Entity

ndividually selected images to the Media Application Entity. The contents of each export job will be written to the selected media destination. The size of the selected media is used to determine and display the number of media required for the export. When a device is filled to capacity, the system will prompt the user for addition media and continue.

5.1.3 Sequencing of Real-World Activities

At least one image must exist and be selected before the Media Application Entity can be invoked. The operator can insert new media at any time. The Media Application Entity will wait indefinitely for media to be inserted before starting to write to the device.

5.1.4 File Meta Information Options

The implementation information written to the File Meta Header in each file is:

Table 88
DICOM Implementation Class and Version for Media Storage

Implementation Class UID	1.2.156.112536.1.2143.0.1.0.1
Implementation Version Name	MINDRAY_V1.0

5.2 AE Specifications

5.2.1 Media Application Entity Specification

The Media Application Entity provides standard conformance to the Media Storage Service Class. The Application Profiles and roles are listed below: The available physical media is CD-R, CD-RW, DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM, and USB devices.

Table 89
Application Profiles, Activities and Roles

Application Profiles Supported	Real World Activity	Role
STD-GEN-USB-JPEG STD-US-SC-SF&MF-CDR STD-US-SC-SF&MF-DVD STD-US-SC-SF&MF-DVD-RAM	Export Exam	FSC/FSU[1]
	Read Exam	FSR
	Import Exam	FSR

Note: 1 functionality requires DVD+RW, DVD-RW, or USB

5.2.1.1 File Meta Information for the Application Entity

The File Meta Header does not include the Source Application Entity Title.

5.2.1.2 Real-World Activities

5.2.1.2.1 Activity-FSC-Export exams

When system user exports exams, images, SR, or Encapsulated PDF to a media upon which no DICOM data resides, it creates a DICOM file set and writes this DICOM File Set to this media.

The Media Application Entity acts as an FSC using the interchange option when requested to export SOP Instances from the local database to media upon which no DICOM data resides.

5.2.1.2.2 Activity-FSR-Import exams

When system user presents the directory of the media, presses Restore button and the selected exams are transferred from the media to the system for review. Objects transferred to the system retain their original SOP Instance UIDs.

The Media Application Entity acts as an FSR using the interchange option when requested to import SOP Instances from media to the local database.

5.2.1.2.3 Activity-FSU-Export exams

The syst
already contains data. The DICOMDIR is updated allowing access to original and new data.

The Media Application Entity acts as an FSU using the interchange option when requested to export SOP Instances from the local database to media upon which DICOM data already resides.

5.2.1.2.3.1 Media Storage Application Profiles

See Table 89 for supported Application Profiles.

5.2.1.2.3.1.1 Options

The Media Application Entity supports the SOP Classes and Transfer Syntaxes listed in the Table below:

Table 90
IODs, SOP Classes and Transfer Syntaxes

Information Object Definition	SOP Class UID	Transfer Syntax	Transfer Syntax UID
DICOM Media Storage Directory	1.2.840.10008.1.3.10	Explicit VR Little Endian	1.2.840.10008.1.2.1
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	[redacted]

		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91
Ultrasound Multi-frame Image Storage	1.2.840.10008.5.1.4.1.1.3.1	Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70
		RLE Lossless	1.2.840.10008.1.2.5
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	Explicit VR Little Endian	1.2.840.10008.1.2.1
		JPEG Lossy, Baseline Sequential with Huffman Coding (Process 1)	1.2.840.10008.1.2.4.50
		JPEG Lossless, Non-Hierarchical, First-Order Prediction (Process 14 [Selection Value 1])	1.2.840.10008.1.2.4.70
		RLE Lossless	1.2.840.10008.1.2.5
		JPEG 2000 Image Compression (Lossless Only)	1.2.840.10008.1.2.4.90
		JPEG 2000 Image Compression	1.2.840.10008.1.2.4.91

Comprehensive SR Storage	1.2.840.10008.5.1.4.1.1.88.33	Explicit VR Little Endian	1.2.840.10008.1.2.1
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Explicit VR Little Endian	1.2.840.10008.1.2.1
Enhanced US Volume Storage	1.2.840.10008.5.1.4.1.1.6.2	Explicit VR Little Endian	1.2.840.10008.1.2.1
Raw Data Storage	1.2.840.10008.5.1.4.1.1.66	Explicit VR Little Endian	1.2.840.10008.1.2.1

5.3 Media Storage Application Profile

See Table 89 for supported Application Profiles.

5.3.1 DICOMDIR Attributes

The DICOMDIR file will contain the following attributes.

Table 91

Common Directory Information Module Attributes

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0004,1130)	CS	2	File-set ID	AUTO
(0004,1200)	UL	1	Offset of the First Directory Record of the Root Directory Entity	AUTO
(0004,1202)	UL	1	Offset of the Last Directory Record of the Root Directory Entity	AUTO
(0004,1212)	US	1	File-set Consistency Flag	0xFFFF
(0004,1220)	SQ	2	Directory Record Sequence	
>(0004,1400)	UL	1	Offset of the Next Directory Record	AUTO
>(0004,1410)	US	1	Record In-use Flag	0xFFFF
>(0004,1420)	UL	1	Offset of Referenced Lower-Level Directory Entity	AUTO
>(0004,1142)	CS	2	Specific Character Set of File-set Descriptor File	ISO_IR 100

Table 92

Patient Directory Record

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0004,1430)	CS	1	Directory Record Type	PATIENT
(0010,0020)	LO	1	Patient ID	MWL/USER
(0010,0010)	PN	2	Patient's Name	MWL/USER
(0010,0030)	DA	3	Patient's Birth Date	MWL/USER
(0010,0040)	CS	3	Patient's Sex	MWL/USER
(0010,1000)	LO	3	Other Patient IDs	MWL/USER

Table 93

Study Directory Record

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0004,1430)	CS	1	Directory Record Type	STUDY
(0008,0020)	DA	1	Study Date	AUTO
(0008,0030)	TM	1	Study Time	AUTO
(0020,0010)	SH	1	Study ID	MWL
(0020,000D)	UI	1C	Study Instance UID	AUTO
(0008,0050)	SH	2	Accession Number	MWL/USER
(0008,1030)	LO	2	Study Description	If it is a scheduled exam, the value is mapped from Scheduled Procedure Step Description; If not, USER
(0008,0090)	PN		Referring Physician's Name	MWL/USER

Table 94

Series Directory Record

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0004,1430)	CS	1	Directory Record Type	SERIES
(0008,0060)	CS	1	Modality	US
(0020,000E)	UI	1	Series Instance UID	AUTO
(0020,0011)	IS	1	Series Number	AUTO

(0008,0021)	DA	3	Series Date	AUTO
(0008,0031)	TM	3	Series Time	AUTO
(0008,103e)	LO		Series Description	If it is a scheduled exam, the value is mapped from Scheduled Procedure Step Description; If not, same as the value of Study Description
(0008,1050)	PN		Performing Physician's Name	MWL/USER

Table 95

Image Directory Record

ATTRIBUTE	VR	TYPE	ATTRIBUTE NAME	VALUE(S) AND COMMENTS
(0004,1430)	CS	1	Directory Record Type	IMAGE
(0004,1500)	CS	1C	Referenced File ID	AUTO
(0004,1510)	UI	1C	Referenced SOP Class UID in File	AUTO
(0004,1511)	UI	1C	Referenced SOP Instance UID in File	AUTO
(0004,1512)	UI	1C	Referenced Transfer Syntax UID in File	AUTO
(0020,0013)	IS	1	Instance Number	AUTO
(0028,0008)	IS	3	Number of Frames	AUTO(Only used for mutil-frame image)

5.4 Augmented and Private Application Profiles

No augmented/private profile is supported.

5.5 Media Configuration

None.

6 SUPPORT OF CHARACTER SETS

In addition to the default character repertoire, the Defined Terms for Specific Character Set in Table 96 are supported:

Table 96
Supported Specific Character Set Defined Terms

Character Set Description	Defined Term	System Language
ISO 8859-1	ISO_IR 100	English, French, German, Italian, Portuguese, Spanish, Finnish, Danish, Icelandic, Norwegian, Swedish
ISO 8859-5	ISO_IR 144	Russian
ISO-8859-2	ISO_IR 101	Polish, Czech, Serbian
Chinese	GB18030	Chinese

If the system language is configured for one of above languages, the corresponding Character Set will be used automatically. Whether or not characters are displayed correctly depends on the operating system. For example, if the system is configured for Polish, the characters of Polish could display correctly.

7 SECURITY

7.1 Security Profiles

DC-70 supports secure DICOM communication in conformance with the Basic TLS Secure Transport Connection Profile and the AES TLS Secure Transport Connection Profile.At default configuration,the TLS option is deactivated.

Basic TLS Secure Transport Connection Profile and the AES TLS Secure Transport Connection Profile are supported using Transport Layer Security Version 1.2 protocol with the following features:

Supported TLS Feature	**Mechanism**
Entity Authentication	RS A based certificates
Exchange of Master Secrets	RSA
Data Integrity	SHA
Privacy (Cyphersuite Options)	

7.2 Association level security

None supported.

Any Calling AE Titles and/or IP addresses may open an Association.

7.3 Application level security

None supported.

8 ANNEXES

8.1 IOD contents

8.1.1 Created SOP Instances

None.

8.1.2 Usage of attributes from

No SOP Class specific fields are required.

The local database makes use of the conventional identification attributes to distinguish patients, studies, series and instances. In particular, if two patients have the same value for Patient ID, and Patient s Sex, they will be treated as the same in the browser and the local database.

8.1.3 Attribute Mapping

Not applicable.

8.1.4 Coerced/Modified fields

No coercion is performed.

8.2 Data Dictionary of private attributes

No private attributes are defined.

8.3 Coded terminology and templates

The value for Code Meaning will be displayed for all code sequences. No local lexicon is provided to look up alternative code meanings.

8.4 Grayscale Image Consistency

Modality does not support the Grayscale Standard Display Function.

8.5 Standard extended/specialized/private sop Classes

None.

8.6 Private Transfer Syntaxes

None.

A. Appendix : OB GYN structured reporting template

This appendix lists the DICOM Structured Report (SR) mappings used in the Obstetric and Gynecologic Structured Reports of ultrasound system SR files.

The mappings are organized in a manner similar to the DICOM SR Templates as described in PS 3.16 of the DICOM Standard. The OB-GYN Report mappings follow the DICOM SR Template TID 5000: OB-GYN Ultrasound Procedure Report, except where noted.

All private code values use the Coding Scheme Designator "MRUS".

A.1. TID (300) Measurement

This Template provides a general structure for a numeric measurement, together with evaluations of its normality and/or significance, and the inference source(s) for its value.

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			NUM	$Measurement			Units = $Units
2	>	HAS CONCEPT MOD	CODE	EV (G-C036, SRT, "Measurement Method")			$Method
3	>	HAS CONCEPT MOD	CODE	EV (121401, DCM, "Derivation")			$Derivation
4	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT, "Finding Site")			$TargetSite
5	>>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT, "Laterality")			DCID (244) Laterality
6	>	HAS PROPERTIES	CODE	EV (121404, DCM, "Selection Status")			
7	>	INFERRED FROM	CODE	DCID (228) Equation or Table			
8	>>	HAS PROPERTIES	NUM				

A.2. TID 1008 Subject Context, Fetus

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			PNAME	EV (121036,DCM,			
2			UIDREF	EV (121028,DCM,			

3

6	>>	CONTAINS	IMAGE	No purpose of reference			
7	>	CONTAINS	INCLUDE	DTID (5002) OB-GYN Procedure Summary Section			
8	>	CONTAINS	INCLUDE	DTID (5004) Fetal Biometry Ratio Section			
9	>	CONTAINS	INCLUDE	DTID (5005) Fetal Biometry Section			
10	>	CONTAINS	INCLUDE	DTID (5006) Long Bones Section			
11	>	CONTAINS	INCLUDE	DTID (5007) Fetal Cranium Section			
12	>	CONTAINS	INCLUDE	DTID (5009) Fetal Biophysical Profile Section			
13	>	CONTAINS	INCLUDE	DTID (5011) Early Gestation Section			
14	>	CONTAINS	INCLUDE	DTID (5010) Amniotic Sac Section			
15	>	CONTAINS	INCLUDE	DTID (5015) Pelvis and Uterus Section			
16	>	CONTAINS	INCLUDE	DTID (5012) Ovaries Section			
17	>	CONTAINS	INCLUDE	DTID (5013) Follicles Section			$Laterality = EV (G- $Number = EV (11879- of follicles in left
18	>	CONTAINS	INCLUDE	DTID (5013) Follicles Section			$Laterality = EV (G-A100, SR $Number = EV (11880- of follicles in right

19	>	CONTAINS	INCLUDE	DTID (5013_1) Follicles Section			$Laterality = EV (G-$Number = EV (11879- Number of smart follicles in left ovary
20	>	CONTAINS	INCLUDE	DTID (5013_1) Follicles Section			$Laterality = EV (G- Right $Number = EV (11879- Number of smart follicles in right ovary
21	>	CONTAINS	CONTAINER	EV (121070,			
22	>>	HAS CONCEPT MOD	CODE	EV (G-C0E3,			EV (T-F6800, SRT,
23	>>	CONTAINS	INCLUDE	DTID (5025) OB-GYN Fetal Vascular Measurement Group			$AnatomyGroup = DCID (12141) Fetal Vasculature
24	>	CONTAINS	CONTAINER	EV (121070,			
25	>>	HAS CONCEPT MOD	CODE	EV (G-C0E3,			EV (T-D6007, SRT,
26	>>	CONTAINS	INCLUDE	DTID (5026) OB-GYN Pelvic Vascular Measurement Group			$AnatomyGroup = DCID (12140) Pelvic Vasculature Anatomical Location
27	>	CONTAINS	INCLUDE	DTID (SELFTMP-1)			
28	>	CONTAINS	TEXT	(20121120,MRUS, self-defined-Measurementfile)			
29	>	CONTAINS	INCLUDE	DTID (			

A.4. TID (SELFTMP-1) Fetal Cardiac Measurement Group

This is a private template referenced by TID (5000).

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	EV(T0001,MRUS,Fetel Cardiac)			

2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT,			EV (M99900,MRUS, Pelvic floor)
3	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-01, Depth)
4	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-02,)
5	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-03,)
6	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (C99901-01, MRUS,)
7	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (C99901-02, MRUS,)
8	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (C99901-03, MRUS,)
9	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-04,)
10	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (C99901-04, MRUS, Thickness)
11	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-05, Neck Symphyseal)

12	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-06, Neck Symphyseal Distance (Valsava)
13	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (C99901-05, MRUS, er Neck)
14	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-07, MRUS,)
15	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901

21	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-13, MRUS,)
22	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-14, MRUS, (Valsava)
23	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-15, MRUS, “ Bladder Post Wall - Symphysis Publis
24	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-16, MRUS, Post Wall - Symphysis Publis
25	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-17, MRUS, “ Cervix - Symphysis Publis
26	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-18, MRUS, “ Cervix - Symphysis Publis
27	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-19, MRUS, “ Rectal Ampulla - Symphysis Publis

28	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-20, MRUS, Ampulla - Symphysis Publis
29	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-21,)
30	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-22,)
31	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-23,)
32	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-24, Ang)
33	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-25, Angle (Valsava)
34	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-26, Angle)
35	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (C99901-07, MRUS,)
36	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (C99901-08, MRUS,)

37	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-27, Hiatal Anteroposterior)
38	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-28, Hiatus Anteroposterior Diameter (Valsava)
39	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-29, Hiatus Anteroposterior Diameter)
40	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-30, Hiatus Lateral)
41	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-31, Hiatus Lateral Diameter (Valsava)
42	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-32, Hiatus Lateral Diameter)
43	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-33, MRU)

44	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-34, Hiatus Circumference)
45	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-35, Hiatus Area (Valsava)
46	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-36, Hiatus Circumference (Valsava)
47	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-37, Hiatus Area)
48	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-38, Hiatus Circumference)
49	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-39, Ani Thickness)
50	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-40, Ani Thickness (Valsava)

51	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-41, MRU Ani Thickness)
52	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-42,)
53	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-43, Ani Angle (Valsava)
54	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-44, Ani Angle)
55	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-48,)
56	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-49,)
57	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-50,)
58	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-51,)
59	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-52,)

60	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-53, Dama)
61	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-54,)
62	>	CONTAINS	INCLUDE	EV (M99901, MRUS Levator Urethra Gap			$AnatomyGroup = EV (M99901, MRUS Levator Urethra Gap $SectionLaterality = DCID (244) Laterality
63	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-45, Urethra Gap)
64	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-46, Urethra Gap (Valsava)
65	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-47, Urethra Gap)
66	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-55, Neck Symphyseal)
67	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-56, Bladder Descent1)

68	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-57, MRUS,)
69	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-58, MRUS,)
70	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-59, MRUS,)
71	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-60,)
72	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-61, Neck Symphyseal Distance1 (Valsava)
73	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-62, Bladder Descent1 (Valsava)
74	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-63, MRUS, Angle1 (Valsava)
75	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-64, MRUS, Angle1 (Valsava)

76	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-65, MRUS, Angle1 (Valsava)
77	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-66, Tilt Angle1 (Valsava)
78	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-67, Neck Symphyseal)
79	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-68, Bladder Descent2)
80	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-69, MRUS,)
81	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-70, MRUS,)
82	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-71, MRUS,)
83	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-72,)

84	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-73, Neck Symphyseal Distance2 (Valsava)
85	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-74, Bladder Descent2 (Valsava)
86	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-75, MRUS, Angle2 (Valsava)
87	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-76, MRUS, Pubovesical Angle2 (Valsava)
88	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-77, MRUS, Angle2 (Valsava)
89	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-78, Tilt Angle2 (Valsava)
90	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-79, Neck Symphyseal)
91	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-80, Bladder Descent3)

92	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-81, MRUS,)
93	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-82, MRUS,)
94	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-83, MRUS, Angle3 (Res)
95	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-84,)
96	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-85, Neck Symphyseal Distance3 (Valsava)
97	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-86, Bladder Descent3 (Valsava)
98	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-87, MRUS, Angle3 (Valsava)
99	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-88, MRUS, Pubovesical Angle3 (Valsava)

100	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-89, MRUS, Angle3 (Valsava)
101	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-90, Tilt Angle3 (Valsava)
102	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-91, Levator Urethra Gap1)
103	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-92, MRUS, Urethra Gap1)
104	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-93, MRUS, Urethra Gap1)
105	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-94, MRUS, “ Levator Urethra Gap2)
106	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-95, MRUS, Urethra Gap2)
107	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (M99901-96, MRUS, evator Urethra Gap2)

4	>	HAS OBS CONTEXT	CODE	EV (121010,DCM, Role in the			(121093, DCM, "Sonographer")
5	>	HAS OBS CONTEXT	CODE	EV (121024, DCM,			(121025, DCM,
6	>	HAS OBS CONTEXT	PNAME	EV (121029,DCM,			Name (0010,0010) in Patient Module
7	>	HAS OBS CONTEXT	DATE	EV (121031,DCM,			Birth Date (0010,0030) in Patient Module
8	>	HAS OBS CONTEXT	CODE	EV (121032,DCM, "Subj			value equivalent to (0010,0040) in Patient Module
9	>	HAS OBS CONTEXT	NUM	EV (121033,DCM,			Age (0010,1010) in Patient Study Module

A.8. TID (5001) OB-GYN Patient Characteristics

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	EV (121118, DCM,			

8	>	CONTAINS	NUM	EV (33065-4, LN,			from info(Ectopic)

A.9. TID (5002) OB-GYN Procedure Summary

NO	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	DT (121111, DCM,			
2	>	CONTAINS	DATE	11778-8, LN, "EDD"			from info
3	>	CONTAINS	DATE	(11779-6, LN, "EDD from LMP")			from info
4	>	CONTAINS	DATE	(11781-2, LN, "EDD from average ultrasound age")			
5	>	CONTAINS	DATE	11780-4, LN, "EDD from ovulation date"			from info
6	>	CONTAINS	DATE	(11955-2, LN, "LMP"			from info
7	>	CONTAINS	DATE	33066-2, LN, "Estimated LMP by EDD"			from info
8	>	CONTAINS	DATE	11976-8, LN, "Ovulation date"			from info
9	>	CONTAINS	DATE	(I12003-01, MRUS, "IVF")			from info
10	>	CONTAINS	DATE	(C12003-01, MRUS, "EDD from IVF")			from info
11	>	CONTAINS	DATE	(I12003-02, MRUS, "PRV")			from info
12	>	CONTAINS	DATE	(C12003-02, MRUS, "EDD from PRV")			from info
13	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (11886-9, LN, "Gestational Age by ovulation date")
14	>	CONTAINS	TEXT	EV (121106, DCM, “Comment”)			from info
15	>	CONTAINS	TEXT	(I12101-01, MRUS, "Primary Indications")			from info
16	>	CONTAINS	TEXT	(I12101-02, MRUS, "Secondary Indications")			from info
17	>	CONTAINS	TEXT	(I12101-03, MRUS, "CPT4 Code")			from info

18	>	CONTAINS	TEXT	(I12101-04, MRUS, "CPT4 Description")			from info
19	>	CONTAINS	TEXT	(I12101-06,MRUS, "follicle-stimulating hormone")			
20	>	CONTAINS	TEXT	(I12101-07,MRUS, "luteinizing hormone")			
21	>	CONTAINS	TEXT	(I12101-08,MRUS, "estradiol")			
22	>	CONTAINS	TEXT	(I12101-09,MRUS, "Serum prolactin")			
23	>	CONTAINS	TEXT	(I12101-10,MRUS, "progesterone")			
24	>	CONTAINS	TEXT	(I12101-11,MRUS, "testosterone")			
25	>	CONTAINS	TEXT	(I12101-12,MRUS, "progesterone")			
26	>	CONTAINS	TEXT	(I12101-14,MRUS, "human menopausal gonadotropin")			
27	>	CONTAINS	TEXT	(I12101-13,MRUS, "clomiphene citrate")			
28	>	CONTAINS	TEXT	(I12101-15,MRUS, "Others drug")			
29	>	CONTAINS	NUM	(8302-2, LN, "Patient Height")			from info
30	>	CONTAINS	NUM	(29463-7, LN, "Patient Weight")			from info
31	>	CONTAINS	TEXT	EV (121106, DCM, “ Comment ”)			report interface Comments
32	>	CONTAINS	TEXT	(I12101-05, MRUS, "Prompt")			report interface Prompt
33	>	CONTAINS	TEXT	(121071, DCM, "Findings")			report interface Findings
34	>>		INCLUDE	DTID (320) Image or Spatial Coordinates			
35	>	CONTAINS	NUM	(I12101-16,MRUS,Vaginal Delivery)			from info
36	>	CONTAINS	NUM	(I12101-17,MRUS,Assisted Vaginal Delivery)			from info

37	>	CONTAINS	NUM	(I12101-18,MRUS,Caesarean Section)			from info
38	>	CONTAINS	INCLUDE	FINDING_7			
39	>	CONTAINS	INCLUDE	BTID (5003) OB-GYN Fetus Summary			

A.10. TID (5003) OB-GYN Fetus Summary

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	DT (125008, DCM,			
2	>	HAS OBS CONTEXT	TEXT	EV (11951-1,LN,"Fetus			
3	>	HAS OBS CONTEXT	NUM	EV (11878-6,LN, "Number of			
4	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (18185-9, LN, "Gestational Age")
5	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (11888-5, LN, " Composite Ultrasound Age")
6	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (11885-1, LN, "Gestational Age
7	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (11727-5, LN, "Estimated
8	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (11767-1, LN, "EFW percentile rank")
9	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (11948-7, LN, " Fetal Heart Rate")

NL	**Rel with Parent**	**VT**	

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1		CONTAINS	CONTAINER	(FG12019-01,MRUS,"Fetal Description")			
2	>	CONTAINS	TEXT	(FG12018-02,MRUS,"Fetal Lie")			

A.12. TID (FINDING_2) Fetus Limbs

This is a private template referenced by TID (5003).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1		CONTAINS	CONTAINER	(FG4031-03,MRUS,"Fetus Limbs")			

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1		CONTAINS	CONTAINER	(FG12019-03,MRUS,"Fetal Environment")			
2	>	CONTAINS	TEXT	(FG12011-01,MRUS,"Placental Location")			
3	>	CONTAINS	TEXT	(FG12011-02,MRUS,"Amniotic Fluid")			
4	>	CONTAINS	TEXT	(FG12011-03,MRUS,"Placental Grade")			

A.17. TID (FINDING_7) Maternal Description

This is a private template referenced by TID (5003).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1		CONTAINS	CONTAINER	(FG6088-01,MRUS,"Maternal Description")			
2	>	CONTAINS	CONTAINER	(FG12011-03,MRUS,"Adnexa")			
3	>>	CONTAINS	TEXT	(G-A100,SNM3,Right)			
4	>>	CONTAINS	TEXT	(G-A101,SNM3,Left)			
5	>	CONTAINS	CONTAINER	(T-87000,SRT,"Ovary")			
6	>>	CONTAINS	TEXT	(G-A100,SNM3,Right)			
7	>>	CONTAINS	TEXT	(G-A101,SNM3,Left)			
8	>	CONTAINS	CONTAINER	(T-71000,SRT,Kidney)			
9	>>	CONTAINS	TEXT	(G-A100,SNM3,Right)			
10	>>	CONTAINS	TEXT	(G-A101,SNM3,Left)			
11	>	CONTAINS	TEXT	(FG4031-01,MRUS,"LUS")			
12	>	CONTAINS	TEXT	(T-83200,SRT,Cervix)			

A.18. TID (5004)Fetal Biometry Ratio Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	DT (125001, DCM,			
2	>	HAS OBS CONTEXT	INCLUDE	EV (11951-1, LN,			
3	>	HAS OBS CONTEXT	NUM	EV (11878-6,LN,			
4	>	CONTAINS	NUM	11947-9, LN, "HC/AC"			
5	>	CONTAINS	NUM	11871-1, LN, "FL/AC"			
6	>	CONTAINS	NUM	11872-9, LN, "FL/BPD"			
7	>	CONTAINS	NUM	(11823-2, LN, "Cephalic Index")			
8	>	CONTAINS	NUM	(11873-7, LN, "FL/HC")			
9	>	CONTAINS	NUM	(C12004-01, MRUS, HrtC/TC)			
10	>	CONTAINS	NUM	(C12004-02, MRUS, "TCD/AC")			
11	>	CONTAINS	NUM	(C12004-03, MRUS, LVW/HW)			
12	>	CONTAINS	NUM	(C12004-04, MRUS, "Cephalic Index by HC")			

A.19. TID (5005) Fetal Biometry Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	DT (125002,			
2	>	HAS OBS CONTEXT	TEXT	EV (11951-1,LN,			

3	>	HAS OBS CONTEXT	NUM	EV (11878-6,LN,			
4	>	CONTAINS	INCLUDE	DTID (5008) Fetal Biometry Group			$BiometryType = MemberOf {DCID (12005) Fetal Biometry Measurements}

A.20. TID (5006) Fetal Long Bones Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	DT (125003,			
2	>	HAS OBS CONTEXT	TEXT	EV (11951-1,LN,			
3	>	HAS OBS CONTEXT	NUM	EV (11878-6,LN, "Number of			
4	>	CONTAINS	INCLUDE	DTID (5008) Fetal Biometry Group			$BiometryType = MemberOf {DCID (12006) Fetal Long Bones Biometry Measurements}

A.21. TID (5007) Fetal Cranium Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	DT (125004,			
2	>	HAS OBS CONTEXT	TEXT	EV (11951-1,LN,			

3	>	HAS CONTEXT	OBS	NUM		EV	(11878-6,LN, "Number of

A.23. TID (5009) Fetal Biophysical Profile Section

	NL	Relation with Parent	Value Type	Concept Name	Used in Modality	Condition	Value Set Constraint
1			CONTAINER	DT (125006,)			
2	>	HAS OBS CONTEXT	INCLUDE	EV (11951-1,LN,			
3	>	HAS OBS CONTEXT	NUM	EV (11878-6,LN, "Number of			
4	>	CONTAINS	NUM	EV (11631-9, LN,			Units = DT
5	>>	HAS PROPERTIES	TEXT	(121106, DCM,			
6	>	CONTAINS	NUM	EV (11632-7, LN,			Units = DT
7	>>	HAS PROPERTIES	TEXT	(121106, DCM,			
8	>	CONTAINS	NUM	EV (11635-0, LN,			Units = DT
9	>>	HAS PROPERTIES	TEXT	(121106, DCM,			
10	>	CONTAINS	NUM	EV (11635-5, LN,			Units = DT
11	>>	HAS PROPERTIES	TEXT	(121106, DCM,			
12	>	CONTAINS	NUM	EV (11630-1, LN,			Units = DT

13	>>	HAS PROPERTIES	TEXT	(121106, DCM,			
14	>	CONTAINS	NUM	DT (11634-3, LN,			
15	>>	HAS PROPERTIES	TEXT	(121106, DCM,			

A.24. TID (5010) Amniotic Sac Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, Sit	√		DT (T-F1300,
3	>	CONTAINS	INCLUDE	DTID (300) Measurement	√		$Measurement = DT (11627-7, LN,
4	>	CONTAINS	INCLUDE	DTID (300) Measurement	√		$Measurement = (11624-4, LN,
5	>	CONTAINS	INCLUDE	DTID (300) Measurement	√		$Measurement = (11626-9, LN, " Second Quadrant
6	>	CONTAINS	INCLUDE	DTID (300) Measurement	√		$Measurement = (11625-1, LN,
7	>	CONTAINS	INCLUDE	DTID (300) Measurement	√		$Measurement = (11623-6, LN, "Fourth Quadrant

4	> >	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (11829-
5	> >	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (11840-
6	> >	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (11857-
7	> >	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (12164-
8	>	CONTAINS	INCLUDE	EV (T-87000,			$GroupName = EV (T-87000,
9	> >	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (11830-
10	> >	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (11841-
11	> >	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (11858-
12	> >	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (12165-
13	>	CONTAINS	INCLUDE	EV (T-87000, MRUS			$AnatomyGroup = EV (T-87000, MRUS Ovarian Cyst $SectionLaterality = DCID (244) Laterality
14	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (T-87000-1, MRUS Ovarian Cyst1 Length

15	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (T-87000-2, MRUS, Ovarian Cyst1 Width
16	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (T-87000-3, MRUS Ovarian Cyst1 Height
17	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (T-87000-4, MRUS Ovarian Cyst2 Length
18	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (T-87000-5, MRUS Ovarian Cyst2 Width
19	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (T-87000-6, MRUS Ovarian Cyst2 Height
20	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (T-87000-7, MRUS Ovarian Cyst3 Length
21	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (T-87000-8, MRUS Ovarian Cyst3 Width
22	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV (T-87000-9, MRUS Ovarian Cyst3 Height

A.27. TID (5013) Follicles Section

	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	DT (121070, DCM,			
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3,			DT (T-87600, SRT,
3	>	HAS CONCEPT	CODE	EV (G-C171, SRT,			$Laterality

		MOD					
4	>	CONTAINS	NUM	EV (11879-4, of follicles in left OR EV (11880-2, r of follicles in Number of follicles in the ovary.			
5	>	CONTAINS	INCLUDE	DTID (5014) Follicle Measurement Group			

A.28. TID (5013_1) Smart Follicles Section

	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1							

				of smart follicles Number of smart follicles in the ovary.			
5	>	CONTAINS	INCLUDE	DTID (5014) Follicle Measurement Group			

A.29. TID (5014) Follicle Measurement Group

	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	EV (125007, DCM,			
2	>	HAS OBS CONTEXT	TEXT	EV (12510, DCM,			Unique among all groups of same laterality
3	>	CONTAINS	INCLUDE	DTID (300) Measurement			

A.30. TID (5014_1) Smart Follicle Measurement Group

NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint

A.31. TID (5015) Pelvis And Uterus Section

	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	DT (125011,			
2	>	CONTAINS	CONTAINER	$GroupName			$GroupName = EV (T-
3	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = $Width $Width = EV (11865-
4	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = $Length $Length = EV (11842-2,
5	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = $Height $Height = EV (11859-6,
6	>>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = $Volume $Volume = EV (33192-6,
7	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV(LN,11961-0,Cervix Length)
8	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = EV(LN,12145-9,Endometrium Thickness)
9	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (MRUS,M12011-01,Cervix Height)
10	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (MRUS,M12011-02,Cervix Width)
11	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (MRUS,C12011-03,Uterus Body)
12	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (MRUS,C12011-04,UT_L/C

							X_L)
13	>	CONTAINS	INCLUDE	DTID (300) Measurement			$Measurement = (MRUS,M12011-03,Matrix Kindney Length)
14	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = EV(MRUS,M12011-04,Fibroid1 Length)
15	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-05,Fibroid1 Width)
16	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-06,Fibroid1 Height)
17	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-07,Fibroid2 Length)
18	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-08,Fibroid2 Width)
19	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-09,Fibroid2 Height)
20	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-10,Fibroid3 Length)
21	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-11,Fibroid3 Width)
22	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-012,Fibroid 3 Height)
23	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-13,Lesion1 Length)
24	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-14,Lesion1 Width)
25	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-15,Lesion1 Height)

26	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-16,Lesion2 Length)
27	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-17,Lesion2 Width)
28	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-18,Lesion2 Height)
29	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-19,Lesion3 Length)
30	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-20,Lesion3 Width)
31	>	CONTAINS	CONTAINER	DTID (300) Measurement			$Measurement = (MRUS,M12011-21,Lesion3 Height)

A.32. TID (5025) OB-GYN Fetus Vascular Ultrasound Measurement Group

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	$AnatomyGroup			
2	>	HAS OBS CONTEXT	TEXT	EV (11951-1,LN,			
3	>	HAS OBS CONTEXT	NUM	EV (11878-6,LN, "Number of			
4	>	HAS CONCEPT MOD	CODE	EV (G-			DCID (244) Laterality
5	>	CONTAINS	INCLUDE	DTID (300) Measurement			$MeasType = DCID (12119) Vascular Ultrasound Property $Derivation =

							DCID (3627) Measurement Type

A.33. TID (5026) OB-GYN Pelvic Vascular Ultrasound Measurement Group

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	$AnatomyGroup			
2	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,			DCID (244) Laterality
3	>	HAS CONCEPT MOD	TEXT	(112050, DCM,			
4	>	CONTAINS	INCLUDE	DTID (300) Measurement			$MeasType = DCID (12119) Vascular Ultrasound Property $Derivation = DCID (3627) Measurement Type

A.34. CID (228) Equation or Table

CSD	CV	Code Meaning
DCM	121420	Equation
DCM	121421	Equation Citation
DCM	121424	Table of Values
DCM	121422	Table of Values Citation
DCM	121423	Method Citation

A.35. CID (244) Laterality

CSD	CV	Code Meaning
SRT	G-A100	Right
SRT	G-A101	Left
SRT	G-A102	Right and left
SRT	G-A103	Unilateral

A.36. CID (3627) Measurement Type

CSD	CV	Code Meaning
SRT	R-002E1	Best value
SRT	R-00317	Mean
SRT	R-00319	Median
SRT	R-0032E	Mode
SRT	R-00355	Point source measurement
SRT	R-00353	Peak to peak
SRT	R-41D27	Visual estimation
SRT	R-10260	Estimated
SRT	R-41D2D	Calculated
SRT	R-41D41	Measured

A.37. CID (12005) Fetal Biometry Measurements

CSD	CV	Code Meaning
LN	11979-2	Abdominal Circumference
LN	11818-2	Anterior-Posterior Abdominal Diameter
LN	11819-0	Anterior-Posterior Trunk Diameter
LN	11820-8	Biparietal Diameter
LN	11860-4	Cisterna Magna
LN	11963-6	Femur Length
LN	11965-1	Foot length
LN	11984-2	Head Circumference
LN	11851-3	Occipital-Frontal Diameter
LN	11988-3	Thoracic Circumference
LN	33068-8	Thoracic Area
LN	11862-0	Tranverse Abdominal Diameter
LN	11863-8	Trans Cerebellar Diameter
LN	11864-6	Transverse Thoracic Diameter
LN	33191-8	APAD * TAD
MRUS	M12005-04	Facial angle
MRUS	M12005-05	Fetal Kidney length
MRUS	M12005-01	Thoracic Diameter
MRUS	M12005-02	Heart Circumference

CSD	CV	Code Meaning
MRUS	M12011-01	Placental Thickness
MRUS	M12005-03	Heart Area
MRUS	C12005-01	Abdominal Circumference c
MRUS	C12005-06	Mean Abdominal Diameter

A.38. CID (12006) Fetal Long Bones Measurements

CSD	CV	Code Meaning
LN	11966-9	Humerus length
LN	11967-7	Radius length
LN	11969-3	Ulna length
LN	11968-5	Tibia length
LN	11964-4	Fibula length
LN	11962-8	Clavicle length
LN	11963-6	Femur Length

A.39. CID (12007) Fetal Cranium

CSD	CV	Code Meaning
LN	12171-5	Lateral Ventrical width
LN	11860-4	Cisterna Magna length
LN	12146-7	Nuchal Fold thickness
LN	33070-4	Inner Orbital Diameter
LN	11629-3	Outer Orbital Diameter
LN	11863-8	Trans Cerebellar Diameter
LN	33069-6	Nuchal Translucency
LN	12170-7	Width of Hemisphere
MRUS	M12007-01	Ear Length
MRUS	M12007-02	Middle Phalanx Length
MRUS	M12007-03	Orbit
MRUS	M12007-04	OFDHC
MRUS	C12007-01	HCc

A.40. CID (12009) Early Gestation Biometry Measurements

CSD	CV	Code Meaning
LN	11957-8	Crown Rump Length
LN	11850-5	Gestational Sac Diameter

CSD	CV	Code Meaning

CSD	CV	Code Meaning
MRUS	F12013-21	OOD, Jeanty 1984
MRUS	F12013-22	TCD,Nicolaides 1994
MRUS	F12013-24	THD,Hansmann 1985
MRUS	F12013-25	GS, Hansmann 1985
MRUS	F12013-26	FL, Hansmann 1995
MRUS	F12013-43	EFW, Hadlock 1991
MRUS	F12013-44	Mean Sac Diameter Daya 1991
MRUS	F12013-45	GS,China 1997
MRUS	F12013-46	CRL,China 1997
MRUS	F12013-47	BPD,China 1997
MRUS	F12013-48	BPD,Nicolaides 1994
MRUS	F12013-49	FL,China 1997
MRUS	F12013-50	FL,Nicolaides 1994
MRUS	F12013-51	FL,Osaka 1989
MRUS	F12013-52	AC,Hansmann1986
MRUS	F12013-53	AC,CFEF Crequat2000
MRUS	F12013-54	AC,Chitty plotted 1994
MRUS	F12013-55	CRL,Robinson hp BMUS 1975
MRUS	F12015-22	FL,Osaka 1989
MRUS	F12013-56	MSD, Hellman 1969
MRUS	F12013-57	OFD, Jeanty 1984
MRUS	F12013-58	RAD, Jeanty 1984
MRUS	F12013-59	FIB, Jeanty 1984
MRUS	F12013-57	BPD, CFEF Crequat 2000
MRUS	F12013-58	FL, CFEF Crequat 2000
MRUS	F12013-59	HC, CFEF Crequat 2000
MRUS	F12013-60	TAD, CFEF Crequat 2000
LN	11926-3	Foot Length by GA Mercer 1987
MRUS	F12013-61	CRL Verburg 2008
MRUS	F12013-62	BPD Verburg 2008

A.42. CID (12014) Fetal Body Weight

CSD	CV	Code Meaning

CSD	CV	Code Meaning
LN	11739-0	EFW by AC and BPD, Shepard 1982
LN	11756-4	EFW by AC, Campbell 1975
MRUS	F12014-07	EFW by BPD, APTD, TTD, FL, Tokyo 1987
LN	11735-8	EFW by AC, BPD, FL, Hadlock 1985
LN	11732-5	EFW by AC, BPD, FL, HC, Hadlock 1985
LN	11751-5	EFW by AC, FL, Hadlock 1985
LN	11746-5	EFW by AC, FL, HC, Hadlock 1985
LN	11884-4	Average Ultrasound Age
MRUS	F12013-27	CUA by BPD, Hadlock 1984
MRUS	F12013-28	CUA by AC, Hadlock 1984
MRUS	F12013-29	

A.43. CID (12015) Fetal Growth Equations and Tables

CSD	CV	Code Meaning
LN	33146-2	AC by GA, Hadlock 1984
LN	33147-0	AC(measured) by GA, Chitty 1994
LN	33546-3	AC (derived) by GA, Chitty 1994
LN	33198-3	BPD by GA, Hadlock 1984
LN	33152-0	outer-outer by GA, Chitty 1994
LN	33155-3	BPD by GA, Rempen 1991
LN	33160-3	CRL by GA, Rempen1991
LN	33166-0	FL by GA, Hadlock 1984
LN	33167-8	FL by GA, Chitty 1994
LN	33171-0	GS by GA, Rempen 1991
LN	33173-6	HC by GA, Hadlock 1984
LN	33174-4	HC derived by GA, Chitty 1994
LN	33181-9	TCD by GA Goldstein 1987
LN	33097-7	Fibula, Jeanty 1983
LN	33126-4	Radius, Jeanty 1983
MRUS	F12015-01	AC by GA, ASUM 2001
MRUS	F12015-02	AC by GA, Merz 1991
MRUS	F12015-03	AC, Jeanty 1984
MRUS	F12015-04	APAD,Merz 1991
MRUS	F12015-05	BPD by GA, ASUM 2001
MRUS	F12015-06	BPD, Hansmann 1985
MRUS	F12015-07	BPD by GA, Merz 1988
MRUS	F12015-08	BPD,Kurtz,1980
MRUS	F12015-09	BPD,Sabbagha 1978
MRUS	F12015-10	BPD, Tokyo 1989
MRUS	F12015-12	Clavical length,Yarkoni 1985
MRUS	F12015-13	CRL by GA ASUM 2001
MRUS	F12015-14	CRL, Hansmann 1985
MRUS	F12015-15	CRL, Robinson 1975
MRUS	F12015-16	CRL, Tokyo 1989
MRUS	F12015-17	EFW by GA, Hadlock 1984
MRUS	F12015-18	FL by GA, ASUM 2001
MRUS	F12015-19	FL, Hansmann 1995

CSD	CV	Code Meaning
MRUS	F12015-20	FL by GA, Merz 1991
MRUS	F12015-21	FL, O'Brien,1981
MRUS	F12015-22	FL, Osaka 1989
MRUS	F12015-23	FL, Tokyo, 1989
MRUS	F12015-24	FL,Warda,1985
MRUS	F12015-25	FIB,Merz,1991
MRUS	F12015-26	FTA, Osaka 1989
MRUS	F12015-27	HC by GA, ASUM 2001
MRUS	F12015-28	HC, Hansmann 1985
MRUS	F12015-29	HC by GA, Merz 1991
MRUS	F12015-30	Humerus Length by GA, ASUM 2001
MRUS	F12015-31	OFD by GA, ASUM 2001
MRUS	F12015-32	OFD, Hansmann 1985
MRUS	F12015-33	OFD,Merz 1991
MRUS	F12015-34	OFD,Nicolaides 1994
MRUS	F12015-35	RAD,Merz 1991
MRUS	F12015-36	TAD,Merz 1991
MRUS	F12015-37	TCD,Hill 1990
MRUS	F12015-38	THD, Hansmann 1985
MRUS	F12015-39	Tibia,Merz 1991
MRUS	F12015-40	Ulna,Merz 1991
MRUS	F12015-41	EFW by GA, Hansmann 1995
MRUS	F12015-42	FL, Jeanty 1984
MRUS	F12015-43	HC, Jeanty 1984
MRUS	F12015-44	OFD, Jeanty 1984
MRUS	F12015-45	HUM, Jeanty 1984
MRUS	F12015-46	ULNA, Jeanty 1984
MRUS	F12015-47	TIBIA, Jeanty 1984
MRUS	F12015-48	BPD, CFEF Crequat 2000
MRUS	F12015-49	HC, CFEF Crequat 2000
MRUS	F12015-50	FL, CFEF Crequat 2000
MRUS	F12015-51	TAD, CFEF Crequat 2000
MRUS	F12015-52	OOD, Jeanty 1984
MRUS	F12015-53	AC, CFEF Crequat 2000
MRUS	F12012-54	AC,Nicolaides 1994

CSD	CV	Code Meaning
MRUS	F12012-55	HC,Nicolaides 1994
MRUS	F12015-67	IT CHINA 2012
MRUS	F12015-68	IT Saulo 2016
MRUS	F12015-69	NBL Bunduki V 2003
MRUS	F12015-70	NBL Sonek JD 2003
MRUS	F12015-71	AC Verburg 2008
MRUS	F12015-72	BPD Verburg 2008
MRUS	F12015-73	FL Verburg 2008
MRUS	F12015-74	HC Verburg 2008
MRUS	F12015-75	TCD Verburg 2008
MRUS	F12015-76	AC,CFEF Crequat 2006
MRUS	F12015-77	AC c ,CFEF Crequat 2006
MRUS	F12015-78	BPD,CFEF Crequat 2006
MRUS	F12015-79	FL,CFEF Crequat 2006
MRUS	F12015-80	HC,CFEF Crequat 2006
MRUS	F12015-81	HC c ,CFEF Crequat 2006
MRUS	F12015-82	EFW CFEF 2014

A.44. CID (12119) Vascular Ultrasound Property

CSD	CV	Code Meaning
INCLUDE CID 12120 Blood Velocity Measurements		
INCLUDE CID 12121 Vascular Indices and Ratios		
INCLUDE CID 12122 Other Vascular Properties		

A.45. CID (12120) Blood Velocity Measurements

CSD	CV	Code Meaning
LN	11653-3	End Diastolic Velocity
LN	11665-7	Minimum Diastolic Velocity
LN	11726-7	Peak Systolic Velocity
LN	11726-7	Peak Velocity
LN	20352-1	Time averaged mean velocity
LN	11692-1	Time averaged peak velocity

A.46. CID (12121) Vascular Indices and Ratios

CSD	CV	Code Meaning
LN	12008-9	Pulsatility Index
LN	12023-8	Resistivity Index
LN	12144-2	Systolic to Diastolic Velocity Ratio
MRUS	M12119-04	Diastolic to Systolic Velocity Ratio
MRUS	C12121-1	Systolic to Atrial Contraction Velocity Ratio
MRUS	M12120-1	

LN	18154-5	Interventricular Septum Diastolic Thickness
LN	18158-6	Interventricular Septum Systolic Thickness
MRUS	M18015-8	Aortic Root Diameter(Z Score)
MRUS	M18020-8	Main Pulmonary Artery Diameter(Z Score)
MRUS	C12201-06	Left Ventricular Diameter/Right Ventricular Diameter
MRUS	C12201-07	Left Ventricular Diameter/Right Ventricular Diameter(Z Score)
MRUS	C12205-03	Left Atrium Diameter / Right Atrium Diameter
MRUS	C12205-04	Left Atrium Diameter / Aorta Diameter
MRUS	C12205-05	Left Atrium Diameter / Aorta Diameter(Z Score)
MRUS	C12212-01	Aorta Diameter/Main Pulmonary Artery Diameter
MRUS	C12212-03	Aorta Diameter/Main Pulmonary Artery Diameter(Z Score)
MRUS	M12201-01	Left ventricular short-axis diameter at end diastole
MRUS	M12201-08	Left ventricular short-axis diameter at end diastole(Z Score)
MRUS	M12201-02	Left ventricular short-axis diameter at end systole
MRUS	M12201-03	Left ventricular Diameter
MRUS	M12201-09	Left ventricular Diameter(Z Score)
MRUS	M12201-04	interventricular septal thichness
MRUS	M12201-05	Left Ventricular Outflow Tract Diameter
MRUS	M12204-01	Right ventricular short-axis diameter at end diastole
MRUS	M12204-07	Right ventricular short-axis diameter at end diastole(Z Score)
MRUS	M12204-02	Right ventricular short-axis diameter at end systole
MRUS	M12204-03	Right ventricular Diameter
MRUS	M12204-08	Right ventricular Diameter(Z Score)
MRUS	M12204-09	Right ventricular area(Z Score)
MRUS	M12204-04	Right ventricular area
MRUS	M12206-01	Right Atrium Diameter
MRUS	M12204-05	Right Ventricular Outflow Tract Diameter
MRUS	M12205-01	Left Atrium Diameter
MRUS	M12205-02	Left Atrium area
MRUS	M12206-02	Right Atrium area
MRUS	M12240-01	Left ventricular area
MRUS	M12240-02	Left ventricular area(Z Score)
MRUS	M12209-1	Pulmonary Valve Diameter(Z Score)
MRUS	M12215-1	Inferior Vene Cava Diameter(Z Score)
MRUS	M12212-1	Duct Aorta Diameter(Z Score)
MRUS	M12208-1	Tricuspid Valve Diameter(Z Score)

MRUS	M12207-1	Mitral Valve Diameter(Z Score)

A.51. Mapping between Modality measurements and DICOM Concepts.

A.51.1. OB-GYN Measurements

MODALITY Label	***DICOM Mapping***
FHR	11948-7,LN,Fetal Heart Rate
HC/AC	11947-9,LN,HC/AC
FL/AC	11871-1,LN,FL/AC
FL/BPD	11872-9,LN,FL/BPD
CI	11823-2,LN,Cephalic Index
FL/HC	11873-7,LN,FL/HC
HrtC/TC	C12004-01,MRUS,HrtC/TC
TCD/AC	C12004-02,MRUS,TCD/AC
LVW/HW	C12004-03,MRUS,LVW/HW
CIHC	C12004-04, MRUS,Cephalic Index by HC
AC	11979-2,LN,Abdominal Circumference
BPD	11820-8,LN,Biparietal Diameter
FL	11963-6,LN,Femur Length
HC	11984-2,LN,Head Circumference
OFD	11851-3,LN,Occipital-Frontal Diameter
APAD	11818-2,LN,Anterior-Posterior Abdominal Diameter
TC	11988-3,LN,Thoracic Circumference
TAD	11862-0,LN,Tranverse Abdominal Diameter
TTD	11864-6,LN,Transverse Thoracic Diameter
APTD	11819-0,LN,Anterior-Posterior Trunk Diameter
FTA	33068-8,LN,Thoracic Area
TCD	11863-8,LN,Trans Cerebellar Diameter
Foot	11965-1,LN,Foot length
Cist Magna	11860-4,LN,Cisterna Magna
AXT	33191-8,LN,APAD * TAD
F-kidney	M12005-05, MRUS, Fetal Kidney length
NBL	M12005-06 MRUS Nose Bone Length

MODALITY Label	***DICOM Mapping***
THD	M12005-01,MRUS,Thoracic Diameter
HrtC	M12005-02,MRUS,Heart Circumference
HUM	11966-9,LN,Humerus length
RAD	11967-7,LN,Radius length
Ulna	11969-3,LN,Ulna length
Tibia	11968-5,LN,Tibia length
FIB	11964-4,LN,Fibula length
CLAV	11962-8,LN,Clavicle length
LVW	12171-5,LN,Lateral Ventrical width
NF	12146-7,LN,Nuchal Fold thickness
IOD	33070-4,LN,Inner Orbital Diameter
OOD	11629-3,LN,Outer Orbital Diameter
TCD	11863-8,LN,Trans Cerebellar Diameter
NT	33069-6,LN,Nuchal Translucency
HW	12170-7,LN,Width of Hemisphere
Ear	M12007-01,MRUS,Ear Length
MP	M12007-02,MRUS,Middle Phalanx Length
Orbit	M12007-03,MRUS,Orbit
OFD(HC)	M12007-04,MRUS,OFDHC
HC(c)	C12007-01,MRUS,HCc
IT	M12007-05,MRUS,intracranial translucency
AF1	11624-4,LN,First Quadrant Diameter
AF2	11626-9,LN,Second Quadrant Diameter
AF3	11625-1,LN,Third Quadrant Diameter
AF4	11623-6,LN,Fourth Quadrant Diameter
AF	M12008-01,MRUS,Amniotic Fluid
CRL	11957-8,LN,Crown Rump Length
GS	11850-5,LN,Gestational Sac Diameter
Vertebrae	33071-2,LN,Spine Length
YS	11816-6,LN,Yolk Sac length
NT	33069-6,LN,Nuchal Translucency
Mean Sac Diam	C12009-01,MRUS,Mean Gestational Sac Diameter
Cervix L	11961-0,LN,Cervix Length
Cervix L	11961-0,LN,Cervix Length

MODALITY Label	***DICOM Mapping***
Endo	12145-9,LN,Endometrium Thickness
Cervix H	M12011-01,MRUS,Cervix Height
Cervix W	M12011-02,MRUS,Cervix Width
Uterus Body	C12011-03,MRUS,Uterus Body
UT-L/CX-L	C12011-04,MRUS,UT_L/CX_L
Mat Kidney	M12011-03,MRUS,Matrix Kindney Length
Fibroid1 d1	M12011-04,MRUS,Fibroid1 Length
Fibroid1 d2	M12011-05,MRUS,Fibroid1 Width
Fibroid1 d3	M12011-06,MRUS,Fibroid1 Height
Fibroid2 d1	M12011-07,MRUS,Fibroid2 Length
Fibroid2 d2	M12011-08,MRUS,Fibroid2 Width
Fibroid2 d3	M12011-09,MRUS,Fibroid2 Height
Fibroid3 d1	M12011-10,MRUS,Fibroid3 Length
Fibroid3 d2	M12011-11,MRUS,Fibroid3 Width
Fibroid3 d3	M12011-12,MRUS,Fibroid3 Height
Lesion1 d1	M12011-13,MRUS,Lesion1 Length
Lesion1 d2	M12011-14,MRUS,Lesion1 Width
Lesion1 d3	M12011-15,MRUS,Lesion1 Height
Lesion2 d1	M12011-16,MRUS,Lesion2 Length
Lesion2 d2	M12011-17,MRUS,Lesion2 Width
Lesion2 d3	M12011-18,MRUS,Lesion2 Height
Lesion3 d1	M12011-19,MRUS,Lesion3 Length
Lesion3 d2	M12011-20,MRUS,Lesion3 Width
Lesion3 d3	M12011-21,MRUS,Lesion3 Height
AFI	11627-7,LN,Amniotic Fluid Index
Ovary W	11829-9, LN, Left Ovary Width;11830-7, LN, Right Ovary Width
Ovary L	11840-6, LN, Left Ovary Length;11841-4, LN, Right Ovary Length
Ovary H	11857-0, LN, Left Ovary Height;11858-8, LN, Right Ovary Height
Ovary Vol	12164-0, LN, Left Ovary Volume;12165-7, LN, Right Ovary Volume
Ovarian Cyst1 d1	T-87000-1,MRUS,Ovarian Cyst1 Length
Ovarian Cyst1 d2	T-87000-2,MRUS,Ovarian Cyst1 Width
Ovarian Cyst1 d3	T-87000-3,MRUS,Ovarian Cyst1 Height
Ovarian Cyst2 d1	T-87000-4,MRUS,Ovarian Cyst2 Length
Ovarian Cyst2 d2	T-87000-5,MRUS,Ovarian Cyst2 Width

MODALITY Label	***DICOM Mapping***
Ovarian Cyst2 d3	T-87000-6,MRUS,Ovarian Cyst2 Height
Ovarian Cyst3 d1	T-87000-7,MRUS,Ovarian Cyst3 Length
Ovarian Cyst3 d2	T-87000-8,MRUS,Ovarian Cyst3 Width
Ovarian Cyst3 d3	T-87000-9,MRUS,Ovarian Cyst3 Height
Follicle d1	M11793-02, MRUS, Follicle d1
UT W	11865-3,LN,Uterus Width
UT L	11842-2,LN,Uterus Length
UT H	11859-6,LN,Uterus Height
UT Vol	33192-6,LN,Uterus Volume
Follicle d2	M11793-01,MRUS,Follicle d2
Follicle1 d3	M11794-01,MRUS,Follicle d3
Follicle Vol	G-D705,SRT,Volume
Follicle MD	11793-7,LN,Follicle MeanDiam
Smart Follicle > Follicle d1	M11793-05, MRUS, Smart Follicle d1
Smart Follicle > Follicle d2	M11793-06,MRUS, Smart Follicle d2
Smart Follicle > Follicle1 d3	M11793-06,MRUS, Smart Follicle d3
Smart Follicle >Follicle Vol	G-D705_1,SRT,Volume
Smart Follicle ->Follicle MD	11793-7,LN,Smart Follicle MeanDiam
EFW1	11727-5,LN,Estimated Weight
EFW2	11727-5,LN,Estimated Weight
CP	11767-1,LN EFW percentile rank
UP	11767-1,LN EFW percentile rank
CP	11767-1,LN EFW percentile rank
UP	11767-1,LN EFW percentile rank
EFW(Campbell)	11727-5,LN,Estimated Weight
EFW(Hadlock1)	11727-5,LN,Estimated Weight
EFW(Hadlock2)	11727-5,LN,Estimated Weight
EFW(Hadlock3)	11727-5,LN,Estimated Weight
EFW(Hadlock4)	11727-5,LN,Estimated Weight
EFW(Hansmann)	11727-5,LN,Estimated Weight

MODALITY Label	***DICOM Mapping***
EFW(Merz1)	11727-5,LN,Estimated Weight
EFW(Merz2)	11727-5,LN,Estimated Weight
EFW(Osaka)	11727-5,LN,Estimated Weight
EFW(Shepard)	11727-5,LN,Estimated Weight
EFW(Tokyo)	11727-5,LN,Estimated Weight

MODALITY Label	*DICOM Mapping*
<Vasculature Anatomic Location> PI	12008-9, LN, Pulsatility Index
<Vasculature Anatomic Location> RI	12023-8, LN, Resistivity Index
<Vasculature Anatomic Location> S/D	12144-2, LN, Systolic to Diastolic Velocity Ratio
<Vasculature Anatomic Location> D/S	M12119-04, MRUS, Diastolic to SystolicVelocity Ratio
<Vasculature Anatomic Location> AT	20168-1, LN, Acceleration Time
<Vasculature Anatomic Location> DT	20217-6, LN, Deceleration Time
<Vasculature Anatomic Location> PPG	20247-3, LN, Peak Gradient
<Vasculature Anatomic Location> MPG	20256-4, LN, Mean Gradient
<Vasculature Anatomic Location> MMPG	M12119-01, MRUS, Mean Velocity Mean Pressure Gradient
<Vasculature Anatomic Location> VTI	M12119-02, MRUS,Velocity-Time Integral
<Vasculature Anatomic Location> HR	11948-7, LN, Fetal Heart Rate
<Vasculature Anatomic Location>	M12119-03, MRUS, Angle
<Vasculature Anatomic Location> VD	R-1025C, SRT, Vessel Intimal Diameter
<Vasculature Anatomic Location> VolFlow	M12119-06, MRUS, Vol Flow(TAMAX&VAS_AREA)
<Vasculature Anatomic Location> VolFlow.TAMEAN	M12119-07, MRUS,Vol Flow(TAMEAN&VAS_AREA)
<Vasculature Anatomic Location> Area	G-0366,SRT,Vessel lumen cross-sectional area

A.51.4. OB-GYN Cardic Measurements

MODALITY Label	*DICOM Mapping*
Ao Diam	18015-8,LN,Aortic Root Diameter

<Z18(I)34(n)-6(t)-5(i)-5(mal)7( )-3

<Z.Scores> LAD/AoD	C12205-05,MRUS,Left Atrium Diameter / Aorta Diameter(Z Score)
AoD/MPAD	C12212-01,MRUS,Aorta Diameter/Main Pulmonary Artery Diameter
<Z.Scores> AoD/MPAD	C12212-03,MRUS,Aorta Diameter/Main Pulmonary Artery Diameter(Z Score)

LUS	FG4031-02,MRUS,LUS
Stomach	T-57000,SNM3,Stomach
Left Kidney	T-71000,SRT,Kidney
Right Kidney	T-71000,SRT,Kidney
Bladder	T-74000,SRT,Bladder
Gall Bladder	T-63000,SRT,Gall bladder
Liver	T-62000,SRT,Liver
Fetal Bowel	FG4031-03,MRUS,Fetal Bowel
Upper Extremities	FG4031-05,MRUS,Upper Extremities
Lower Extremities	FG4031-06,MRUS,Lower Extremities
Cardiac Activity	FG12239-01,MRUS,Cardiac Activity
4C HEART	FG4031-08,MRUS,4C HEART
Aorta	T-42000,SNM3,Aorta
Pulmonary Artery	T-44000,SNM3,Pulmonary Artery
ARCH	FG3010-01,MRUS,ARCH
LVOT	T-32650,SRT,Left Ventricular Outflow Tract
RVOT	T-32550,SRT,Right Ventricle Outflow Tract
Lateral Ventricles	FG4030-02,MRUS,Lateral Ventricles
Cisterna Magna	11860-4,LN,Cisterna Magna
Cerebellum	TreW* nBT/F3 8.04 Tf25 reW* nBT/F3 8.04Qq g0 G[(reT

RVA(S)	M99901-08,MRUS,Retrovesical Angle (Stress)
UTA(R)	M99901-09,MRUS,Urethral Tilt Angle (Rest)
UTA(S)	M99901-10,MRUS,Urethral Tilt Angle (Stress)
PVA(R)	M99901-11,MRUS,Pubovesical Angle (Rest)
PVA(S)	M99901-12,MRUS,Pubovesical Angle (Stress)
PUA(R)	M99901-13,MRUS,Pubourethral Angle (Rest)
PUA(S)	M99901-14,MRUS,Pubourethral Angle (Stress)
BL Desc. Max(R)	M99901-15,MRUS,Maximal Bladder Descent (Rest)
BL Desc. Max(S)	M99901-16,MRUS,Maximal Bladder Descent (Stress)
UT Desc. Max(R)	M99901-17,MRUS,Maximal Uterus Descent (Rest)
UT Desc. Max(S)	M99901-18,MRUS,Maximal Uterus Descent (Stress)
R Amp. Desc. Max(R)	M99901-19,MRUS,Maximal Rectal Ampulla Descent (Rest)
R Amp. Desc. Max(S)	M99901-20,MRUS,Maximal Rectal Ampulla Descent (Stress)
URA	M99901-21,MRUS,Urethral Rotation Angle
Rectocele Depth	M99901-22,MRUS,Rectocele Depth
Intus. Depth	M99901-23,MRUS,Intus. Depth
ARA(R)	M99901-24,MRUS,Anorectal Angle (Rest)
ARA(S)	M99901-25,MRUS,Anorectal Angle (Stress)
ARA(C)	M99901-26,MRUS,Anorectal Angle (Contraction)
LH AP Diam(R)	M99901-27,MRUS,Levator Hiatal Anteroposterior Diameter (Rest)
LH AP Diam(S)	M99901-28,MRUS,Levator Hiatus Anteroposterior Diameter (Stress)
LH AP Diam(C)	M99901-29,MRUS,Levator Hiatus Anteroposterior Diameter (Contraction)
LH Lateral Diam(R)	M99901-30,MRUS,Levator Hiatus Lateral Diameter (Rest)
LH Lateral Diam(S)	M99901-31,MRUS,Levator Hiatus Lateral Diameter (Stress)
LH Lateral Diam(C)	M99901-32,MRUS,Levator Hiatus Lateral Diameter (Contraction)
LH Angle(R)	M99901-33,MRUS,Levator Hiatus Area (Rest)
LH Circ(R)	M99901-34,MRUS,Levator Hiatus Circumference (Rest)
LH Angle(S)	M99901-35,MRUS,Levator Hiatus Area (Stress)
LH Circ(S)	M99901-36,MRUS,Levator Hiatus Circumference (Stress)
LH Angle(C)	M99901-37,MRUS,Levator Hiatus Area (Contraction)
LH Circ(C)	M99901-38,MRUS,Levator Hiatus Circumference (Contraction)
LA Thickness (R)	M99901-39,MRUS,Levator Ani Thickness (Rest)
LA Thickness (S)	M99901-40,MRUS,Levator Ani Thickness (Stress)
LA Thickness (C)	M99901-41,MRUS,Levator Ani Thickness (Contraction)
LA Angle(R)	M99901-42,MRUS,Levator Ani Angle (Rest)
LA Angle(S)	M99901-43,MRUS,Levator Ani Angle (Stress)

LA Angle(C)	M99901-44,MRUS,Levator Ani Angle (Contraction)
ResUr (Dietz)	C99901-01,MRUS,Residual Urine (Dietz)
ResUr (Haylen)	C99901-02,MRUS,Residual Urine (Haylen)
ResUr (Dicuio)	C99901-03,MRUS,Residual Urine (Dicuio)
Mean DWT	C99901-04,MRUS,Detrusor Wall Thickness (C)
BND	C99901-05,MRUS,Bladder Neck Descent
IAS Damage	C99901-07,MRUS,IAS Damage
EAS Damage	C99901-08,MRUS,EAS Damage
DWT1	M99901-48,MRUS,Detrusor Wall Thickness1
DWT2	M99901-49,MRUS,Detrusor Wall Thickness2
DWT3	M99901-50,MRUS,Detrusor Wall Thickness3
IAS D1	M99901-51,MRUS,IAS Damage1
IAS D2	M99901-52,MRUS,IAS Damage2
EAS D1	M99901-53,MRUS,EAS Damage1
EAS D2	M99901-54,MRUS,EAS Damage2
BSD(R) (Ref Coord C1)	M99901-55,MRUS,Bladder Neck-Symphyseal Distance1 (Rest)
BL Desc. Max(R) (Ref Coord C1)	M99901-56,MRUS,Maximal Bladder Descent1 (Rest)
PUA(R) (Ref Coord C1)	M99901-57,MRUS,Pubourethral Angle1 (Rest)
PVA(R) (Ref Coord C1)	M99901-58,MRUS,Pubovesical Angle1 (Rest)
RVA(R) (Ref Coord C1)	M99901-59,MRUS,Retrovesical Angle1 (Rest)
UTA(R) (Ref Coord C1)	M99901-60,MRUS,Urethral Tilt Angle1 (Rest)
BSD(S) (Ref Coord C1)	M99901-61,MRUS,Bladder Neck-Symphyseal Distance1 (Stress)
BL Desc. Max(S) (Ref Coord C1)	M99901-62,MRUS,Maximal Bladder Descent1 (Stress)
PUA(S) (Ref Coord C1)	M99901-63,MRUS,Pubourethral Angle1 (Stress)
PVA(S) (Ref Coord C1)	M99901-64,MRUS, Pubovesical Angle1 (Stress)
RVA(S) (Ref Coord C1)	M99901-65,MRUS,Retrovesical Angle1 (Stress)
UTA(S) (Ref Coord C1)	M99901-66,MRUS,Urethral Tilt Angle1 (Stress)
BSD(R) (Ref Coord C2)	M99901-67,MRUS,Bladder Neck-Symphyseal Distance2 (Rest)
BL Desc. Max(R) (Ref Coord C2)	M99901-68,MRUS,Maximal Bladder Descent2 (Rest)
PUA(R) (Ref Coord C2)	M99901-69,MRUS,Pubourethral Angle2 (Rest)
PVA(R) (Ref Coord C2)	M99901-70,MRUS,Pubovesical Angle2 (Rest)
RVA(R) (Ref Coord C2)	M99901-71,MRUS,Retrovesical Angle2 (Rest)
UTA(R) (Ref Coord C2)	M99901-72,MRUS,Urethral Tilt Angle2 (Rest)
BSD(S) (Ref Coord C2)	M99901-73,MRUS,Bladder Neck-Symphyseal Distance2 (Stress)
BL Desc. Max(S) (Ref Coord C2)	M99901-74,MRUS,Maximal Bladder Descent2 (Stress)
PUA(S) (Ref Coord C2)	M99901-75,MRUS,Pubourethral Angle2 (Stress)
PVA(S) (Ref Coord C2)	M99901-76,MRUS, Pubovesical Angle2 (Stress)
RVA(S) (Ref Coord C2)	M99901-77,MRUS,Retrovesical Angle2 (Stress)
UTA(S) (Ref Coord C2)	M99901-78,MRUS,Urethral Tilt Angle2 (Stress)
BSD(R) (Ref Coord C3)	M99901-79,MRUS,Bladder Neck-Symphyseal Distance3 (Rest)

BL Desc. Max(R) (Ref Coord C3)	M99901-80,MRUS,Maximal Bladder Descent3 (Rest)
PUA(R) (Ref Coord C3)	M99901-81,MRUS,Pubourethral Angle3 (Rest)
PVA(R) (Ref Coord C3)	M99901-82,MRUS,Pubovesical Angle3 (Rest)
RVA(R) (Ref Coord C3)	M99901-83,MRUS,Retrovesical Angle3 (Rest)
UTA(R) (Ref Coord C3)	M99901-84,MRUS,Urethral Tilt Angle3 (Rest)
BSD(S) (Ref Coord C3)	M99901-85,MRUS,Bladder Neck-Symphyseal Distance3 (Stress)
BL Desc. Max(S) (Ref Coord C3)	M99901-86,MRUS,Maximal Bladder Descent3 (Stress)
PUA(S) (Ref Coord C3)	M99901-87,MRUS,Pubourethral Angle3 (Stress)
PVA(S) (Ref Coord C3)	M99901-88,MRUS, Pubovesical Angle3 (Stress)
RVA(S) (Ref Coord C3)	M99901-89,MRUS,Retrovesical Angle3 (Stress)
UTA(S) (Ref Coord C3)	M99901-90,MRUS,Urethral Tilt Angle3 (Stress)
BND(Ref Coord C1)	C99901-10,MRUS,Bladder Neck Descent1
BND(Ref Coord C2)	C99901-12,MRUS,Bladder Neck Descent2
BND(Ref Coord C3)	C99901-14,MRUS,Bladder Neck Descent3
LUG1(R)	M99901-91,MRUS,Levator Urethra Gap1 (Rest)
LUG1(Va)	M99901-92,MRUS,Levator Urethra Gap1 (Valsava)
LUG1(C)	M99901-93,MRUS,Levator Urethra Gap1 (Contraction)
LUG2(R)	M99901-94,MRUS,Levator Urethra Gap2 (Rest)
LUG2(Va)	M99901-95,MRUS,Levator Urethra Gap2 (Valsava)
LUG2(C)	M99901-96,MRUS,Levator Urethra Gap2 (Contraction)

B. Appendix : Cardiac structured reporting template

This appendix lists the DICOM Structured Report (SR) mappings used in the Cardiac Structured Reports of ultrasound system SR files.

The mappings are organized in a manner similar to the DICOM SR Templates as described in PS 3.16 of the DICOM Standard. The Cardiac Report mappings follow the DICOM SR Template TID 5200: Cardiac Ultrasound Procedure Report, except where noted.

All private code values use the Coding Scheme Designator "MRUS".

B.1. TID (5200) Echocardiography Procedure Report

This template forms the top of a content tree that allows an ultrasound system to describe the results of an adult echocardiography imaging procedure.

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	EV (125200, DCM,	√		
2	>	HAS CONCEPT MOD	INCLUDE	DTID (1204) Language of Content Item and Descendants			
3	>	HAS OBS CONTEXT	INCLUDE	DTID (1001) Observation Context	√		
4	>	CONTAINS	INCLUDE	DTID (5201) Echocardiography Patient Characteristics	√		
5	>	CONTAINS	CONTAINER				
6	>>	CONTAINS	IMAGE	No purpose of reference			
7	>	CONTAINS	INCLUDE	DTID(SELFTEM-2)Echo Procedure Summary Section	√		
8	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T- $MeasType = DCID

							(12200) Echocardiography Left Ventricle
9	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T- $MeasType = DCID (12204) Echocardiography Right Ventricle
10	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T- $MeasType = DCID (12205) Echocardiography Left Atrium
11	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T- $MeasType = DCID (12206) Echocardiography Right Atrium
12	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T-35400, SRT, $MeasType = DCID (12211) Echocardiography Aortic Valve
13	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T-35300, SRT, $MeasType = DCID (12207) Echocardiography Mitral Valve
14	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T-35200, SRT, $MeasType = DCID (12209)

							Echocardiography Pulmonic Valve
15	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T-35100, SRT, $MeasType = DCID (12208) Echocardiography Tricuspid Valve
16	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T-42000, SRT, $MeasType= DCID (12212) Echocardiography Aorta
17	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T-44000, SRT, $MeasType DCID (12210) = Echocardiography Pulmonary Artery
18	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T- $MeasType = DCID (12215) Echocardiography Vena Cavae
19	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (T-48581, SRT, Pulmonary Venous $MeasType = DCID (12214) Echocardiography Pulmonary Veins
20	>	CONTAINS	INCLUDE	DTID (5202) Echo Section	√		$SectionSubject = EV (P5-30031, SRT, DCID (12217)

							Echocardiography Cardiac Shunt

21 > CONTAINS

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1	>	HAS OBS CONTEXT	CODE	EV (121005,DCM,	√		(121006,DCM,
2	>	HAS OBS CONTEXT	PNAME	EV (121008,DCM,	√		Operator from Info
3	>	HAS OBS CONTEXT	TEXT	EV (121009,DCM,	√		Institution Name (0008,0080) of the General Equipment Module
4	>	HAS OBS CONTEXT	CODE	EV (121010,DCM, Role in the	√		(121093, DCM, "Sonographer")
5	>	HAS OBS CONTEXT	CODE	EV (121024, DCM,	√		(121025, DCM,
6	>	HAS OBS CONTEXT	PNAME	EV (121029,DCM,	√		(0010,0010) in Patient Module
7	>	HAS OBS CONTEXT	DATE	EV (121031,DCM, "Subject B	√		Date (0010,0030) in Patient Module
8	>	HAS OBS CONTEXT	CODE	EV (121032,DCM,	√		value equivalent to (0010,0040) in Patient Module
9	>	HAS OBS CONTEXT	NUM	EV (121033,DCM, "Subject Age	√		(0010,1010) in Patient Study Module

B.3. TID (5201) Echocardiography Patient Characteristics

	NL	Rel with Parent	VT	Concept Name	Used in Modality	Value Set Constraint	Comments
1			CONTAINER	EV (121118, DCM,	√		
2	>	CONTAINS	NUM	EV (121033, DCM,	√	Units = DCID (7456) Units of Measure for Age	from Info

3	>	CONTAINS	CODE	EV (121032, DCM,	√	DCID (7455) Sex	from worklist or Info
4	>	CONTAINS	NUM	EV (8867-	√		from Info
5	>	CONTAINS	NUM	EV (F-008EC, SRT,	√		from Info
6	>	CONTAINS	NUM	EV (F-008ED, SRT, "Diastolic Blood Pressure")	√		from Info
7	>	CONTAINS	NUM	EV(18070-3,LN,"Right Atrium Systolic Pressure")	√		from Info
8	>	CONTAINS	NUM				

							interface Comment
8	>	CONTAINS	TEXT	(I12101-05,MRUS,"Prompt")	√		from report interface Comment
9	>	CONTAINS	TEXT	(121071,DCM,"Findings")	√		from report interface Comment

B.5. TID (5202) ECHO SECTION

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	EV (121070,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT,	√	$SectionSubject = EV (T-32600,	
3	>	CONTAINS	CONTAINER	DT (125007, DCM,	√		
4	>>	HAS CONCEPT MOD	CODE	EV (G-0373, SRT		BCID (12224) Ultrasound Image Modes	
5	>>	HAS CONCEPT MOD	CODE	DT			
6	>>	CONTAINS	INCLUDE	DTID (5203) Echo Measurement	√	$Measurement= $MeasType = DCID (12200) Echocardiography Left Ventricle $Method=CID (12227) Echocardiography Measurement Method	

B.6. TID (5203) Echo Measurement

	NL	Relation with Parent	Value Type	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			INCLUDE	DTID (300) Measurement	√	$Measurement = $Measurement $Method = $Method $TargetSite = BCID (12236) Echo Anatomic Sites $TargetSiteMod = BCID (12237) Echocardiography Anatomic Site Modifiers	
2	>	HAS CONCEPT MOD	CODE	EV(G-C036,SRT,"Measurement Method")	√	This row is used only if the measurement or	

7	>	HAS ACQ CONTEXT	CODE		√	BCID (12226) Echocardiography Image View	

B.7. CID (12200) Echocardiography Left Ventricle

INCLUDE CID 12220 Echocardiography Common Measurements
INCLUDE CID 12201 Left Ventricle Linear
INCLUDE CID 12240 Left Ventricle Area
INCLUDE CID 12202 Left Ventricle Volume
INCLUDE CID 12222 Orifice Flow Properties
INCLUDE CID 12203 Left Ventricle Other
INCLUDE CID 12239 Cardiac Output Properties

B.8. CID (12201) Left Ventricle Linear

CSD	CV	Code Meaning
LN	29436-3	Left Ventricle Internal End Diastolic Dimension
LN	29438-9	Left Ventricle Internal Systolic Dimension
LN	18051-3	Left Ventricular Fractional Shortening
LN	18154-5	Interventricular Septum Diastolic Thickness
LN	18155-2	Interventricular Septum to Posterior Wall Thickness Ratio
LN	18054-7	Interventricular Septum % Thickening
LN	18158-6	Interventricular Septum Systolic Thickness
LN	18053-9	Left Ventricle Posterior Wall % Thickening

CSD	CV	Code Meaning
SRT	G-0381	Right Ventricular Index of Myocardial Performance
SRT	G-0380	Right Ventricular Peak Systolic Pressure
LN	18153-7	Right Ventricular Anterior Wall Diastolic Thickness
LN	18157-8	Right Ventricular Anterior Wall Systolic Thickness
MRUS	M12204-01	Right ventricular Major
MRUS	M12204-02	Right ventricular Minor
MRUS	M12204-03	Right ventricular Area at end-diastole
MRUS	M12204-04	Right ventricular Area at end-systole
MRUS	M12204-05	Right Ventricle Pre-Ejection Period
MRUS	M12204-06	Right Ventricle Ejection Time
MRUS	C12204-01	Right Ventricle Pre-Ejection Period to Ejection Time Ratio
MRUS	C12204-02	Right Ventricle Acceleration Time to Ejection Time Ratio
MRUS	C12204-03	Right Ventricular Fractional Area Change
LN	20304-2	Right Ventricular Internal Diastolic Dimension
LN	20305-9	Right Ventricular Internal Systolic Dimension
MRUS	M12204-03	Right ventricular Area at end-diastole
MRUS	M12204-04	Right ventricular Area at end-systole
MRUS	M12204-07	Right ventricular end-diastolic basal diameter
MRUS	M12204-08	Right ventricular end-diastolic midcavity diameter

B.12. CID (12205) Echocardiography Left Atrium

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
LN	29469-4	Left Atrium Antero-posterior Systolic Dimension
LN	17985-3	Left Atrium to Aortic Root Ratio
LN	17977-0	Left Atrium Systolic Area
SRT	G-0383	Left Atrium Systolic Volume
MRUS	M12205-01	Left atrium Major
MRUS	M12205-02	Left atrium Minor
MRUS	C12205-01	Aortic Root to Left Atrium Ratio
MRUS	C12205-02	Left Atrium Volume index
LN	29469-4	Left Atrium Antero-posterior Systolic Dimension
LN	17977-0	Left Atrium Systolic Area

CSD	CV	Code Meaning
MRUS	M12205-03	LA LL Diam

B.13. CID (12206) Echocardiography Right Atrium

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
LN	18070-3	Right Atrium Systolic Area
MRUS	M12206-01	Right atrium Major
MRUS	M12206-02	Right atrium Minor
MRUS	M12206-03	Right atrium Volume
MRUS	M12206-04	Right atrium Volume index
LN	17988-7	Right Atrium Systolic Area
MRUS	M12206-04	RA AP Diam
MRUS	M12206-05	RA LL Diam

B.14. CID (12207) Echocardiography Mitral Valve

CSD	CV	Code Meaning
SRT	F-32120	Stroke Volume
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
INCLUDE CID 12239 Cardiac Output Properties		
LN	17978-8	Mitral Valve A-Wave Peak Velocity
LN	18037-2	Mitral Valve E-Wave Peak Velocity
LN	18038-0	Mitral Valve E to A Ratio
SRT	G-0386	Mitral Valve AT/DT Ratio
LN	18040-6	Mitral Valve E-F Slope by M-Mode
LN	18036-4	Mitral Valve EPSS, E wave
SRT	G-0385	Mitral Valve A-Wave Duration
SRT	G-0387	Mitral Valve Closure to Opening Time
LN	18035-6	Mitral Regurgitation dP/dt derived from Mitral Reg. velocity
MRUS	M12207-01	Mitral valve cusp separate distance
MRUS	M12207-02	Mitral Valve D-E Slope
MRUS	M12207-03	Amplitude of the A wave

CSD	CV	Code Meaning
MRUS	M12207-04	Amplitude of the E wave
MRUS	M12207-05	Amplitude from D point to E point
MRUS	M12207-06	Mitral Valve E-wave Pressure Gradient
MRUS	M12207-07	Mitral Valve A-wave Pressure Gradient
MRUS	M12207-08	E wave Velocity Time Integral
MRUS	M12207-9	A wave Velocity Time Integral
MRUS	M12207-10	Mitral Valve E-Wave Duration
MRUS	M12207-11	Systolic Velocity of the Mitral Annulus(medial)
MRUS	M12207-12	Early diastolic velocity of the mitral annulus(medial)
MRUS	M12207-13	Late diastolic velocity of the mitral annulus(medial)
MRUS	M12207-14	Early diastolic velocity to Late diastolic velocity Ratio
MRUS	M12207-15	Acceleration Time of Early diastolic velocity
MRUS	M12207-16	Acceleration Rate of Early diastolic velocity
MRUS	M12207-17	Deceleration Time of Early diastolic velocity
MRUS	M12207-18	Deceleration Rate of Early diastolic velocity
MRUS	M12207-19	Systolic Velocity of the Mitral Annulus(lateral)
MRUS	M12207-20	Early diastolic velocity of the mitral annulus(lateral)
MRUS	M12207-21	Late diastolic velocity of the mitral annulus(lateral)
MRUS	M12207-22	Early diastolic velocity to Late diastolic velocity Ratio
MRUS	M12207-23	Acceleration Time of Early diastolic velocity
MRUS	M12207-24	Acceleration Rate of Early diastolic velocity
MRUS	M12207-25	Deceleration Time of Early diastolic velocity
MRUS	M12207-26	Deceleration Rate of Early diastolic velocity
MRUS	M12207-27	Mitral Stenosis Radius
MRUS	M12207-28	Mitral Stenosis Aliasing Velocity
MRUS	M12207-29	Mitral Stenosis Maximum Velocity
MRUS	M12207-30	Mitral Stenosis Area
MRUS	M12207-31	Mitral Stenosis Area
MRUS	M12207-32	Mitral Stenosis Maximum Pressure Gradient
MRUS	M12207-33	Mitral Valve A-C Slope
MRUS	M12207-34	A Wave Amplitude to C Wave Amplitude Ratio
MRUS	C12207-01	Mitral Stenosis Maximum Pressure Gradient
MRUS	M12207-35	MV E/Ea medial
MRUS	M12207-36	MV E/Ea lateral
MRUS	M12207-37	MV E/Ea medial lateral

CSD	CV	Code Meaning
MRUS	M12207-38	Mitral Valve A-C Interval
MRUS	M12207-39	Mitral Annular Plane Systolic Excursion

B.15. CID (12208) Echocardiography Tricuspid Valve

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
LN	18031-5	Tricuspid Valve E Wave Peak Velocity
LN	18030-7	Tricuspid Valve A Wave Peak Velocity
LN	18039-8	Tricuspid Valve E to A Ratio
LN	20296-0	Time from Q wave to Tricuspid Valve Opens
SRT	G-0389	Tricuspid Valve Closure to Opening Time
MRUS	M12208-01	Tricuspid Valve E-Wave Duration
MRUS	M12208-02	Tricuspid Valve E Wave Pressure Gradient
MRUS	M12208-03	Tricuspid Valve A Wave Pressure Gradient
MRUS	M12208-04	Tricuspid Annular Plane Systolic Excursion

B.16. CID (12209) Echocardiography Pulmonic Valve

INCLUDE CID 12220 Echocardiography Common Measurements
INCLUDE CID 12222 Orifice Flow Properties

B.17. CID (12210) Echocardiography Pulmonary Artery

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
LN	18020-8	Main Pulmonary Artery Diameter
LN	18021-6	Right Pulmonary Artery Diameter
LN	18019-0	Left Pulmonary Artery Diameter
SRT	G-038A	Main Pulmonary Artery Peak Velocity
MRUS	M12210-01	Posterior ductal Diameter
MRUS	C12210-01	Pulmonary Artery End Diastolic Pressure
LN	18020-8	Main Pulmonary Artery Diameter
LN	18021-6	Right Pulmonary Artery Diameter
LN	18019-0	Left Pulmonary Artery Diameter

B.18. CID (12211) Echocardiography Aortic Valve

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
LN	17996-0	Aortic Valve Cusp Separation
SRT	G-0382	Ratio of Aortic Valve Acceleration Time to Ejection Time

B.19. CID (12212) Echocardiography Aorta

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
LN	18015-8	Aortic Root Diameter
LN	18011-7	Aortic Arch Diameter
LN	18012-5	Ascending Aortic Diameter
LN	18014-1	Aortic Isthmus Diameter
LN	18013-3	Descending Aortic Diameter
MRUS	M12212-01	Aortic Sinotubular junction Diameter
MRUS	M12212-02	Aortic Sinus Diameter
MRUS	M12212-03	Ductus Artery Diameter
MRUS	M12212-04	Previous Ductal Diameter
MRUS	M12212-05	Left Coronary Artery Diameter
MRUS	M12212-06	Right Coronary Artery Diameter
MRUS	C12212-02	Aortic Sinotubular junction Diameter/Aorta Root Diameter
LN	18014-1	Aortic Isthmus Diameter
MRUS	M12212-01	Aortic Sinotubular junction Diameter
MRUS	M12212-02	Aortic Sinus Diameter
MRUS	M12212-07	Ao Arch IA-LCA
MRUS	M12212-08	Ao Arch LCA-LSA
MRUS	M12212-09	Ao Arch After LSA
MRUS	M12212-10	Thoracic Ao Diam

B.20. CID (12214) Echocardiography Pulmonary Veins

CSD	CV	Code Meaning

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
SRT	G-038B	Pulmonary Vein A-Wave Duration
SRT	G-038D	Pulmonary Vein D-Wave Velocity Time Integral/
SRT	G-038C	Pulmonary Vein S-Wave Velocity Time Integral
MRUS	M12214-01	Pulmonary Vein S wave flow Velocity
MRUS	M12214-02	Pulmonary Vein D-wave flow Velocity
MRUS	M12214-03	Pulmonary Vein A-wave flow Velocity
MRUS	M12214-04	Pulmonary Vein Deceleration Time
MRUS	M12214-05	Pulmonary Vein Ratio of S-Wave velocity to D-wave velocity
MRUS	M12214-06	Pulmonary Vein Systolic fraction

B.21. CID (12215) Echocardiography Vena Cavae

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
LN	18006-7	Inferior Vena Cava Diameter
MRUS	M12215-01	Superior Vena Cava Diameter
MRUS	C12215-03	Collapsible index of inferior vena cava
MRUS	C12215-04	Distensibility index of inferior vena cava
MRUS	C12215-05	Collapsible index of superior vena cava
MRUS	C12215-06	Distensibility index of superior vena cava
MRUS	M12215-04	Inferior Vena Cava Depth
MRUS	M12215-05	Superior Vena Cava Depth
LN	18006-7	Inferior Vena Cava Diameter

B.22. CID (12216) Echocardiography Hepatic Veins

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
LN	29471-0	Hepatic Vein Systolic Peak Velocity
LN	29472-8	Hepatic Vein Diastolic Peak Velocity
LN	29473-6	Hepatic Vein Systolic to Diastolic Ratio
LN	29474-4	Hepatic Vein Atrial Contraction Reversal Peak Velocity

CSD	CV	Code Meaning
MRUS	29473-0	Hepatic Vein Systolic Pressure Gradient
MRUS	29473-1	Hepatic Vein Diastolic Pressure Gradient

B.23. CID (12217) Echocardiography Cardiac Shunt

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12239 Cardiac Output Properties		
LN	29462-9	Pulmonary-to-Systemic Shunt Flow Ratio
MRUS	M12217-01	Pulmonary-sub-Systemic Shunt Flow Difference

B.24. CID (12218) Echocardiography Congenital

CSD	CV	Code Meaning
INCLUDE CID 12220 Echocardiography Common Measurements		
INCLUDE CID 12222 Orifice Flow Properties		
MRUS	M12218-01	Patent Ductus Arteriosus Diameter
MRUS	M12218-02	Patent Foramen Ovale Diameter
MRUS	M12218-03	Patent Ductus Arteriosus Diastolic Velocity
MRUS	M12218-04	Patent Ductus Arteriosus Systolic Velocity
MRUS	M12218-05	Coarctation of Pre-Ductus Velocity
MRUS	M12218-06	Coarctation of Post-Ductus Velocity
MRUS	M12218-07	Patent Ductus Arteriosus Diastolic Peak Gradient
MRUS	M12218-08	Patent Ductus Arteriosus Systolic Peak Gradient
MRUS	M12218-09	Coarctation of Pre-Ductus Peak Gradient
MRUS	M12218-10	Coarctation of Post-Ductus Peak Gradient

B.25. CID (12220) Echocardiography Common Measurements

CSD	CV	Code Meaning
LN	8867-4	Heart rate

B.26. CID (12221) Flow Direction

CSD	CV	Code Meaning
SRT	R-42047	Antegrade Flow
SRT	R-42E61	Regurgitant Flow

B.27. CID (12222) Orifice Flow Properties

CSD	CV	Code Meaning
SRT	G-038E	Cardiovascular Orifice Area
SRT	G-038F	Cardiovascular Orifice Diameter
SRT	G-0390	Regurgitant Fraction

B.28. CID (12224) Ultrasound Image Modes

CSD	CV	Code Meaning
SRT	G-03A2	2D mode
SRT	G-0394	M mode
SRT	R-409E2	Doppler Color Flow
SRT	G-0394	M mode
SRT	R-409E4	Doppler Pulsed
SRT	R-409E3	Doppler Continuous Wave
DCM	125230	Power Doppler
DCM	125231	3D mode
MRUS	IM12224-01	Tissue Doppler Imaging

B.29. CID (12226) Echocardiography Image View

CSD	CV	Code Meaning
SRT	G-A19B	Apical two chamber
SRT	G-A19C	Apical four chamber
SRT	G-0395	Apical long axis
SRT	G-0396	Parasternal long axis
SRT	G-0397	Parasternal short axis
SRT	G-0398	Parasternal short axis at the aortic valve level
SRT	G-0399	Parasternal short axis at the level of the mitral chords
SRT	G-039A	Parasternal short axis at the Mitral Valve level
SRT	G-039B	Parasternal short axis at the Papillary Muscle level
SRT	G-039C	Right Ventricular Inflow Tract View
SRT	G-039D	Right Ventricular Outflow Tract View
SRT	G-039E	Subcostal long axis
SRT	G-039F	Subcostal short axis
SRT	G-03A0	Suprasternal long axis
SRT	G-03A1	Suprasternal short axis

B.30. CID (12227) Echocardiography Measurement Method

INCLUDE CID 12228 Echocardiography Volume Methods
INCLUDE CID 12229 Echocardiography Area Methods

INCLUDE CID 12231 Volume Flow Methods
INCLUDE CID 12232 Myocardium Mass Methods

B.31. CID (12228) Volume Methods

CSD	CV	Code Meaning
DCM	125204	Area-Length Biplane
DCM	125205	Area-Length Single Plane
DCM	125211	Biplane Ellipse
DCM	125226	Single Plane Ellipse
DCM	125206	Cube Method
DCM	125207	Method of Disks, Biplane
DCM	125208	Method of Disks, Single Plane
DCM	125209	Teichholz
MRUS	VM12228-01	Bullet
MRUS	VM12228-02	Method of Disks,Simpson
MRUS	VM12228-03	Gibson

B.32. CID (12229) Area Methods

CSD	CV	Code Meaning
DCM	125210	Area by Pressure Half-Time
DCM	125212	Continuity Equation
DCM	125213	Continuity Equation by Mean Velocity
DCM	125214	Continuity Equation by Peak Velocity
DCM	125215	Continuity Equation by Velocity Time Integral
DCM	125216	Proximal Isovelocity Surface Area
DCM	125220	Planimetry

B.33. CID (12230) Gradient Methods

CSD	CV	Code Meaning
DCM	125217	Full Bernoulli
DCM	125218	Simplified Bernoulli

B.34. CID (12231) Volume Flow Methods

CSD	CV	Code Meaning
DCM	125219	Doppler Volume Flow
DCM	125216	Proximal Isovelocity Surface Area

B.35. CID (12232) Myocardium Mass Methods

CSD	CV	Code Meaning
DCM	125221	Left Ventricle Mass by M-mode
DCM	125222	Left Ventricle Mass by Truncated Ellipse

B.36. CID (12233) Cardiac Phase

CSD	CV	Code Meaning
SRT	F-32020	Systole
SRT	F-32010	Diastole
SRT	F-32011	End Diastole
DCM	109070	End Systole

B.37. CID (12234) Respiration Phase

CSD	CV	Code Meaning
SRT	F-20010	During Inspiration
SRT	F-20020	During Expiration

B.38. CID (12239) Cardiac Output Properties

CSD	CV	Code Meaning
SRT	F-32120	Stroke Volume
SRT	F-32100	Cardiac Output
SRT	F-32110	Cardiac Index
SRT	F-00078	Stroke Index
SRT	F-04FD8	RV Stroke Volume
SRT	F-04FE5	RV Stroke Index
SRT	F-04FA5	RV Cardiac Output
SRT	F-04F84	RV Cardiac Index

B.39. CID (12240) Left Ventricle Area

CSD	CV	Code Meaning
SRT	G-0374	Left Ventricular Systolic Area
SRT	G-0375	Left Ventricular Diastolic Area
SRT	G-0379	Left Ventricle Epicardial Diastolic Area, psax pap view
MRUS	M12240-01	Left Ventricle Endocardiac Diastolic Area, psax pap view
SRT	G-0376	Left Ventricular Fractional Area Change
SRT	G-0374	Left Ventricular Systolic Area
SRT	G-0375	Left Ventricular Diastolic Area

B.40. CID (90000) Pericardial disease

CSD	CV	Code Meaning
MRUS	C90000-01	Pericard Effusion at end-diastole
MRUS	C90000-02	Pericard Effusion at end-systole

B.41. Mapping between Modality measurements and DICOM Concepts.

B.41.1. Left Ventricle Measurements

MODALITY Label	*DICOM Mapping*	*Optional Modifiers*
LVOT HR	8867-4,LN,Heart rate	
LVIDd(2D)	29436-3,LN,Left Ventricle Internal End	

LVIDd Cube(M)	29436-3,LN,Left Ventricle Internal End Diastolic Dimension	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
LVIDd Teich(M)	29436-3,LN,Left Ventricle Internal End Diastolic Dimension	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
LVIDd LV Mass(Cube)(2D)	29436-3,LN,Left Ventricle Internal End Diastolic Dimension	ImageMode = G-03A2,SRT,2D mode;
LVIDd LV Mass(Cube)(M)	29436-3,LN,Left Ventricle Internal End Diastolic Dimension	ImageMode = G-0394,SRT,M Mode; Method =125221,DCM,Left Ventricle Mass by M-mode
LVIDd(BP Ellipse)	29436-3,LN,Left Ventricle Internal End Diastolic Dimension	ImageMode = G-03A2,SRT,2D mode; Method =125211,DCM,Biplane Ellipse
LVIDd(M)	29436-3,LN,Left Ventricle Internal End Diastolic Dimension	ImageMode = G-0394,SRT,M Mode;
LVIDs(2D)	29438-9,LN,Left Ventricle Internal Systolic Dimension	ImageMode = G-03A2,SRT,2D mode;
LVIDs Cube(2D)	29438-9,LN,Left Ventricle Internal Systolic Dimension	ImageMode = G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
LVIDs Teich(2D)	29438-9,LN,Left Ventricle Internal Systolic Dimension	ImageMode = G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
LVIDs Gibson(2D)	29438-9,LN,Left Ventricle Internal Systolic Dimension	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
LVIDs Cube(M)	29438-9,LN,Left Ventricle Internal Systolic Dimension	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
LVIDs Teich(M)	29438-9,LN,Left Ventricle Internal Systolic Dimension	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
LVIDs Gibson(M)	29438-9,LN,Left Ventricle Internal Systolic Dimension	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
LVIDs(BP Ellipse)	29438-9,LN,Left Ventricle Internal Systolic Dimension	ImageMode = G-03A2,SRT,2D mode; Method =125211,DCM,Biplane Ellipse
LVIDs(M)	29438-9,LN,Left Ventricle Internal Systolic Dimension	ImageMode = G-0394,SRT,M Mode;
FS(Cube-M)	18051-3,LN,Left Ventricular Fractional Shortening	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
FS(Teich-M)	18051-3,LN,Left Ventricular Fractional Shortening	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
FS(Gibson-M)	18051-3,LN,Left Ventricular Fractional Shortening	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
FS(Cube-2D)	18051-3,LN,Left Ventricular Fractional Shortening	ImageMode = G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method

FS(Teich-2D)	18051-3,LN,Left Ventricular Fractional Shortening	ImageMode = G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
FS(Gibson-2D)	18051-3,LN,Left Ventricular Fractional Shortening	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
IVSd(2D)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode;
IVSd(LV Mass Cube-2D)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode;
IVSd(LV Mass Cube-M)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =125221,DCM,Left Ventricle Mass by M-mode
IVSd(M)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =
IVSd Teich(2D)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
IVSd Teich(M)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
IVSd Cube(2D)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
IVSd Cube(M)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
IVSd Gibson(2D)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
IVSd Gibson(M)	18154-5,LN,Interventricular Septum Diastolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
IVSd/LVPWd(2D)	18155-2,LN,Interventricular Septum to Posterior Wall Thickness Ratio	CardiacCyclePoint =F-32011,SRT,End Diastole; ImageMode = G-03A2,SRT,2D mode;
IVSs/LVPWs(2D)	18155-2,LN,Interventricular Septum to Posterior Wall Thickness Ratio	CardiacCyclePoint =109070,SRT,End Systole; ImageMode = G-03A2,SRT,2D mode;
IVSd/LVPWd(M)	18155-2,LN,Interventricular Septum to Posterior Wall Thickness Ratio	CardiacCyclePoint =F-32011,SRT,End Diastole; ImageMode = G-0394,SRT,M Mode;
IVSs/LVPWs(M)	18155-2,LN,Interventricular Septum to le;	

IVSs(M)	18158-6,LN,Interventricular Septum Systolic Thickness	ImageMode = G-0394,SRT,M Mode;
IVSs Teich(2D)	18158-6,LN,Interventricular Septum Systolic Thickness	ImageMode = G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
IVSs Teich(M)	18158-6,LN,Interventricular Septum Systolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
IVSs Cube(2D)	18158-6,LN,Interventricular Septum Systolic Thickness	ImageMode = G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
IVSs Cube(M)	18158-6,LN,Interventricular Septum Systolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
IVSs Gibson(2D)	18158-6,LN,Interventricular Septum Systolic Thickness	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
IVSs Gibson(M)	18158-6,LN,Interventricular Septum Systolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
LVPW%(2D)	18053-9,LN,Left Ventricle Posterior Wall % Thickening	ImageMode = G-03A2,SRT,2D mode;
LVPW%(M)	18053-9,LN,Left Ventricle Posterior Wall % Thickening	ImageMode = G-0394,SRT,M Mode;
LVLd apical(Mod.Simpson)	18077-8,LN,Left Ventricle diastolic major axis	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-02,MRUS,Method of Disks,Simpson
LVLd(A2C)	18077-8,LN,Left Ventricle diastolic major axis	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125208,DCM,Method of Disks, Single Plane
LVLd(A4C)	18077-8,LN,Left Ventricle diastolic major axis	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125208,DCM,Method of Disks, Single Plane
LVLd apical(SP Ellipse)	18077-8,LN,Left Ventricle diastolic major axis	ImageMode = G-03A2,SRT,2D mode; Method =125226,DCM,Single Plane Ellipse
LVLd apical(Bullet)	18077-8,LN,Left Ventricle diastolic major axis	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-01,MRUS,Bullet
LVLd apical(LV Mass A-L)	18077-8,LN,Left Ventricle diastolic major axis	ImageMode = G-03A2,SRT,2D mode; Method =125205,DCM,Area-Length Single Plane
LVLd2i	18077-8,LN,Left Ventricle diastolic major axis	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125207,DCM,Method of Disks, Biplane

LVPWs Gibson(M)	18156-0,LN,Left Ventricle Posterior Wall Systolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
LVPWd(2D)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode;
LVPWd(LV Mass-2D)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode;
LVPWd(LV Mass-M)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =125221,DCM,Left Ventricle Mass by M-mode
LVPWd(M)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-0394,SRT,M Mode;
LVPWd Cube(2D)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
LVPWd Cube(M)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
LVPWd Teich(2D)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
LVPWd Teich(M)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
LVPWd Gibson(2D)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
LVPWd Gibson(M)	18152-9,LN,Left Ventricle Posterior Wall Diastolic Thickness	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
LV Major	M12201-01,MRUS,Left ventricular Major	ImageMode = G-03A2,SRT,2D mode;
LV Minor	M12201-02,MRUS,Left ventricular Minor	ImageMode = G-03A2,SRT,2D mode;
MVCF(Cube-M)	C12201-01,MRUS,Mean Velocity of Circumferential Fiber Shortening	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
MVCF(Teich-M)	C12201-01,MRUS,Mean Velocity of Circumferential Fiber Shortening	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
MVCF(Gibson-M)	C12201-01,MRUS,Mean Velocity of Circumferential Fiber Shortening	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
MVCF(Cube-2D)	C12201-01,MRUS,Mean Velocity of Circumferential Fiber Shortening	ImageMode = G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
MVCF(Teich-2D)	C12201-01,MRUS,Mean Velocity of Circumferential Fiber Shortening	ImageMode = G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
MVCF(Gibson-2D)	C12201-01,MRUS,Mean Velocity of Circumferential Fiber Shortening	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
a	M12201-03,MRUS,A Distance	ImageMode = G-03A2,SRT,2D mode;
d	M12201-04,MRUS,B Distance	ImageMode = G-03A2,SRT,2D mode;

LVIDd Index(M)	M12201-05,MRUS,Left ventricular internal diameter to BSA Ratio	CardiacCyclePoint =F-32011,SRT,End Diastole; ImageMode = G-0394,SRT,M Mode;
LVIDs Index(M)	M12201-05,MRUS,Left ventricular internal diameter to BSA Ratio	CardiacCyclePoint =109070,SRT,End Systole; ImageMode = G-0394,SRT,M Mode;
LVIDd Index(2D)	M12201-05,MRUS,Left ventricular internal diameter to BSA Ratio	

LVAs(A2C)	G-0374,SRT,Left Ventricular Systolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125208,DCM,Method of Disks, Single Plane
LVAs(A4C)	G-0374,SRT,Left Ventricular Systolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125208,DCM,Method of Disks, Single Plane
LVAs sax MV(BP Ellipse)	G-0374,SRT,Left Ventricular Systolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039A,SRT,Parasternal short axis at the Mitral Valve level; Method =125211,DCM,Biplane Ellipse
LVAs sax MV(Bullet)	G-0374,SRT,Left Ventricular Systolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039A,SRT,Parasternal short axis at the Mitral Valve level; Method =VM12228-01,MRUS,Bullet
LVAs apical(BP Ellipse)	G-0374,SRT,Left Ventricular Systolic Area	ImageMode =G-03A2,SRT,2D mode; Method =125211,DCM,Biplane Ellipse
LV Area(d)	G-0375,SRT,Left Ventricular Diastolic Area	ImageMode =G-03A2,SRT,2D mode;
LV Area(d)	G-0376,SRT,Left Ventricular Fractional Area Change	ImageMode=G-03A2,SRT,2D mode ; Method=VM12228-02,MRUS,Method of Disks,Simpson
LVAd apical(SP Ellipse)	G-0375,SRT,Left Ventricular Diastolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-0395,SRT,Apical long axis;
LVAd sax MV(Mod.Simpson)	G-0375,SRT,Left Ventricular Diastolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039A,SRT,Parasternal short axis at the Mitral Valve level;
LVAd sax PM	G-0375,SRT,Left Ventricular Diastolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039B,SRT,Parasternal short axis at the Papillary Muscle level;
LVAd(A2C)	G-0375,SRT,Left Ventricular Diastolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125208,DCM,Method of Disks, Single Plane
LVAd(A4C)	G-0375,SRT,Left Ventricular Diastolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125208,DCM,Method of Disks, Single Plane

LVAd sax MV(BP Ellipse)	G-0375,SRT,Left Ventricular Diastolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039A,SRT,Parasternal short axis at the Mitral Valve level; Method =125211,DCM,Biplane Ellipse
LVAd sax MV(Bullet)	G-0375,SRT,Left Ventricular Diastolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039A,SRT,Parasternal short axis at the Mitral Valve level; Method =VM12228-01,MRUS,Bullet
LVAd apical(BP Ellipse)	G-0375,SRT,Left Ventricular Diastolic Area	ImageMode =G-03A2,SRT,2D mode; ImageView = G-0395,SRT,Apical long axis; Method =125211,DCM,Biplane Ellipse
LVAd sax Epi(LV Mass T-E)	G-0379,SRT,Left Ventricle Epicardial Diastolic Area, psax pap view	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039B,SRT,Parasternal short axis at the Papillary Muscle level; Method =125222,DCM,Left Ventricle Mass by Truncated Ellipse
LVAd sax Epi(LV Mass A-L)	G-0379,SRT,Left Ventricle Epicardial Diastolic Area, psax pap view	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039B,SRT,Parasternal short axis at the Papillary Muscle level; Method =125205,DCM,Area-Length Single Plane
LVAd sax Endo(LV Mass T-E)	M12240-01,MRUS,Left Ventricle Endocardiac Diastolic Area, psax pap view	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039B,SRT,Parasternal short axis at the Papillary Muscle level; Method =125222,DCM,Left Ventricle Mass by Truncated Ellipse
LVAd sax Endo(LV Mass A-L)	M12240-01,MRUS,Left Ventricle Endocardiac Diastolic Area, psax pap view	ImageMode =G-03A2,SRT,2D mode; ImageView = G-039B,SRT,Parasternal short axis at the Papillary Muscle level; Method =125205,DCM,Area-Length Single Plane
EDV(SP Ellipse)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125226,DCM,Single Plane Ellipse
EDV(BP Ellipse)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125211,DCM,Biplane Ellipse
EDV(Bullet)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-01,MRUS,Bullet
EDV(Mod.Simpson)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-02,MRUS,Method of Disks,Simpson

EDV(Simp SP-A2C)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125208,DCM,Method of Disks, Single Plane
EDV(Simpson BP)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125207,DCM,Method of Disks, Biplane
EDV(Simp BP-A2C)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125207,DCM,Method of Disks, Biplane
EDV(Simp BP-A4C)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125207,DCM,Method of Disks, Biplane
EDV(Cube-M)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
EDV(Teich-M)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
EDV(Gibson-M)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
EDV(Cube-2D)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
EDV(Teich-2D)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
EDV(Gibson-2D)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
EDV(Simp SP-A4C)	18026-5,LN,Left Ventricular End Diastolic Volume	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125208,DCM,Method of Disks, Single Plane
ESV(SP Ellipse)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125226,DCM,Single Plane Ellipse
ESV(BP Ellipse)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125211,DCM,Biplane Ellipse
ESV(Bullet)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-01,MRUS,Bullet
ESV(Mod.Simpson)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-02,MRUS,Method of Disks,Simpson

ESV(Simp SP-A2C)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125208,DCM,Method of Disks, Single Plane
ESV(Simpson BP)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125207,DCM,Method of Disks, Biplane
ESV(Simp BP-A2C)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125207,DCM,Method of Disks, Biplane
ESV(Simp BP-A4C)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125207,DCM,Method of Disks, Biplane
ESV(Cube-M)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
ESV(Teich-M)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
ESV(Gibson-M)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
ESV(Cube-2D)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
ESV(Teich-2D)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
ESV(Gibson-2D)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
ESV(Simp SP-A4C)	18148-7,LN,Left Ventricular End Systolic Volume	ImageMode =G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125208,DCM,Method of Disks, Single Plane
EF(SP Ellipse)	18043-0,LN,Left Ventricular Ejection Fraction	ImageMode =G-03A2,SRT,2D mode; Method =125226,DCM,Single Plane Ellipse
EF(BP Ellipse)	18043-0,LN,Left Ventricular Ejection Fraction	ImageMode =G-03A2,SRT,2D mode; Method =125211,DCM,Biplane Ellipse
EF(Bullet)	18043-0,LN,Left Ventricular Ejection Fraction	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-01,MRUS,Bullet
EF(Mod.Simpson)	18043-0,LN,Left Ventricular Ejection Fraction	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-02,MRUS,Method of Disks,Simpson

LVOT Diam(AVA Vmax)	G-038F,SRT,Cardiovascular Orifice Diameter	ImageMode =G-03A2,SRT,2D mode;
LVOT Vmax	11726-7,LN,Peak Velocity	
LVOT Vmax(LVOT VTI)	11726-7,LN,Peak Velocity	
LVOT Vmean	20352-1,LN,Mean Velocity	
LVOT PGmax	20247-3,LN,Peak Gradient	
LVOT PGmax(LVOT VTI)	20247-3,LN,Peak Gradient	
LVOT PGmean	20256-4,LN,Mean Gradient	
LVOT VTI	20354-7,LN,Velocity Time Integral	
LVOT VTI(MVA VTI)	20354-7,LN,Velocity Time Integral	
LVOT VTI(AVA VTI)	20354-7,LN,Velocity Time Integral	
LVOT AccT	20168-1,LN,Acceleration Time	
LVOT θ	M12222-01,MRUS, Angle	
LVOT Acc Slope	M12222-02,MRUS, Acceleration Slope	
LV Mass(Cube-M)	18087-7,LN,Left Ventricle Mass	ImageMode =G-0394,SRT,M Mode; Method =125221,DCM,Left Ventricle Mass by M-mode
LV Mass(T-E)	18087-7,LN,Left Ventricle Mass	ImageMode =G-03A2,SRT,2D mode; Method =125222,DCM,Left Ventricle Mass by Truncated Ellipse
LV Mass(A-L)	18087-7,LN,Left Ventricle Mass	ImageMode =G-03A2,SRT,2D mode; Method =125205,DCM,Area-Length Single Plane
LV Mass(Cube-2D)	18087-7,LN,Left Ventricle Mass	ImageMode =G-03A2,SRT,2D mode;
IVRT	18071-1,LN,Left Ventricular Isovolumic Relaxation Time	
IVCT	G-037E,SRT,Left Ventricular Isovolumic Contraction Time	
LVIMP(M)	G-037F,SRT,Left Ventricular Index of Myocardial Performance	ImageMode =G-0394,SRT,M Mode;
LVIMP(Doppler)	G-037F,SRT,Left Ventricular Index of Myocardial Performance	
LVPEP(M)	M12203-01,MRUS,Left Ventricle Pre-Ejection Period	ImageMode =G-0394,SRT,M Mode;

LVPEP(Doppler)	M12203-01,MRUS,Left Ventricle Pre-Ejection Period	
LVET(M)	M12203-02,MRUS,Left Ventricle Ejection Time	ImageMode =G-0394,SRT,M Mode;
LVET(Doppler)	M12203-02,MRUS,Left Ventricle Ejection Time	
LVET LVIMP(M)	M12203-02,MRUS,Left Ventricle Ejection Time	ImageMode =G-0394,SRT,M Mode;
LVET LVIMP(Doppler)	M12203-02,MRUS,Left Ventricle Ejection Time	
LV Mass-I(Cube-M)	C12203-01,MRUS,Left ventricular Mass Weight Index	ImageMode =G-0394,SRT,M Mode; Method =125221,DCM,Left Ventricle Mass by M-mode
LV Mass-I(T-E)	C12203-01,MRUS,Left ventricular Mass Weight Index	ImageMode =G-03A2,SRT,2D mode; Method =125222,DCM,Left Ventricle Mass by Truncated Ellipse
LV Mass-I(A-L)	C12203-01,MRUS,Left ventricular Mass Weight Index	ImageMode =G-03A2,SRT,2D mode; Method =125205,DCM,Area-Length Single Plane
LV Mass-I(Cube-2D)	C12203-01,MRUS,Left ventricular Mass Weight Index	ImageMode =G-03A2,SRT,2D mode;
LVPEP/ET(M)	C12203-02,MRUS,Left Ventricle Pre-Ejection Period to Ejection Time Ratio	ImageMode =G-0394,SRT,M Mode;
LVPEP/ET(Doppler)	C12203-02,MRUS,Left Ventricle Pre-Ejection Period to Ejection Time Ratio	
LVOT SV	F-32120,SRT,Stroke Volume	
SV(SP Ellipse)	F-32120,SRT,Stroke Volume	ImageMode =G-03A2,SRT,2D mode; Method =125226,DCM,Single Plane Ellipse
SV(BP Ellipse)	F-32120,SRT,Stroke Volume	ImageMode =G-03A2,SRT,2D mode; Method =125211,DCM,Biplane Ellipse
SV(Bullet)	F-32120,SRT,Stroke Volume	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-01,MRUS,Bullet
SV(Mod.Simpson)	F-32120,SRT,Stroke Volume	ImageMode =G-03A2,SRT,2D mode; Method =VM12228-02,MRUS,Method of Disks,Simpson
SV(A2C)	F-32120,SRT,Stroke Volume	ImageMode = G-03A2,SRT,2D mode; Method =125208,DCM,Method of Disks, Single Plane

SV(Simpson BP)	F-32120,SRT,Stroke Volume	ImageMode = G-03A2,SRT,2D mode; Method =125207,DCM,Method of Disks, Biplane
SV2(Simpson BP)	F-32120,SRT,Stroke Volume	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125207,DCM,Method of Disks, Biplane
SV4(Simpson BP)	F-32120,SRT,Stroke Volume	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125207,DCM,Method of Disks, Biplane
SV(Cube-M)	F-32120,SRT,Stroke Volume	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
SV(Teich-M)	F-32120,SRT,Stroke Volume	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
SV(Gibson-M)	F-32120,SRT,Stroke Volume	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
SV(Cube-2D)	F-32120,SRT,Stroke Volume	ImageMode = G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
SV(Teich-2D)	F-32120,SRT,Stroke Volume	ImageMode = G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
SV(Gibson-2D)	F-32120,SRT,Stroke Volume	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
SV(A4C)	F-32120,SRT,Stroke Volume	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125208,DCM,Method of Disks, Single Plane
LVOT CO	F-32100,SRT,Cardiac Output	
CO(SP Ellipse)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; Method =125226,DCM,Single Plane Ellipse
CO(BP Ellipse)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; Method =125211,DCM,Biplane Ellipse
CO(Bullet)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-01,MRUS,Bullet
CO(Mod.Simpson)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-02,MRUS,Method of Disks,Simpson
CO(A2C)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; Method =125208,DCM,Method of Disks, Single Plane

CO(Simpson BP)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; Method =125207,DCM,Method of Disks, Biplane
CO2(Simpson BP)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125207,DCM,Method of Disks, Biplane
CO4(Simpson BP)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125207,DCM,Method of Disks, Biplane
CO(Cube-M)	F-32100,SRT,Cardiac Output	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
CO(Teich-M)	F-32100,SRT,Cardiac Output	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
CO(Gibson-M)	F-32100,SRT,Cardiac Output	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
CO(Cube-2D)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
CO(Teich-2D)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz
CO(Gibson-2D)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-03,MRUS,Gibson
CO(A4C)	F-32100,SRT,Cardiac Output	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125208,DCM,Method of Disks, Single Plane
LVOT CI	F-32110,SRT,Cardiac Index	
CI(SP Ellipse)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; Method =125226,DCM,Single Plane Ellipse
CI(BP Ellipse)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; Method =125211,DCM,Biplane Ellipse
CI(Bullet)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-01,MRUS,Bullet
CI(Mod.Simpson)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; Method =VM12228-02,MRUS,Method of Disks,Simpson
CI(A2C)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; Method =125208,DCM,Method of Disks, Single Plane

CI(Simpson BP)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; Method =125207,DCM,Method of Disks, Biplane
CI2(Simpson BP)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method =125207,DCM,Method of Disks, Biplane
CI4(Simpson BP)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method =125207,DCM,Method of Disks, Biplane
CI(Cube-M)	F-32110,SRT,Cardiac Index	ImageMode = G-0394,SRT,M Mode; Method =125206,DCM,Cube Method
CI(Teich-M)	F-32110,SRT,Cardiac Index	ImageMode = G-0394,SRT,M Mode; Method =125209,DCM,Teichholz
CI(Gibson-M)	F-32110,SRT,Cardiac Index	ImageMode = G-0394,SRT,M Mode; Method =VM12228-03,MRUS,Gibson
CI(Cube-2D)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; Method =125206,DCM,Cube Method
CI(Teich-2D)	F-32110,SRT,Cardiac Index	ImageMode = G-03A2,SRT,2D mode; Method =125209,DCM,Teichholz

SI(Simpson BP)

RVSP	G-0380,SRT,Right Ventricular Peak Systolic Pressure	
RVAWd(2D)	18153-7,LN,Right Ventricular Anterior Wall Diastolic Thickness	ImageMode = G-03A2,SRT,2D mode;
RVAWd(M)	18153-7,LN,Right Ventricular Anterior Wall Diastolic Thickness	ImageMode = G-0394,SRT,M Mode;
RVAWs(2D)	18157-8,LN,Right Ventricular Anterior Wall Systolic Thickness	ImageMode = G-03A2,SRT,2D mode;
RVAWs(M)	18157-8,LN,Right Ventricular Anterior Wall Systolic Thickness	ImageMode = G-0394,SRT,M Mode;
RV Major	M12204-01,MRUS,Right ventricular Major	ImageMode = G-03A2,SRT,2D mode;
RV Minor	M12204-02,MRUS,Right ventricular Minor	ImageMode = G-03A2,SRT,2D mode;
RV Area(d)	M12204-03,MRUS,Right ventricular Area at end-diastole	ImageMode = G-03A2,SRT,2D mode;
RV Area(d)	C12204-03,MRUS,Right Ventricular Fractional Area Change	
RV Area(s)	M12204-04,MRUS,Right ventricular Area at end-systole	ImageMode = G-03A2,SRT,2D mode;
RV Area(s)	C12204-03,MRUS,Right Ventricular Fractional Area Change	
RVPEP(M)	M12204-05,MRUS,Right Ventricle Pre-Ejection Period	ImageMode = G-0394,SRT,M Mode;
RVPEP(Doppler)	M12204-05,MRUS,Right Ventricle Pre-Ejection Period	
RVET(M)	M12204-06,MRUS,Right Ventricle Ejection Time	ImageMode = G-0394,SRT,M Mode;
RVET(RVIMP)	M12204-06,MRUS,Right Ventricle Ejection Time	
RVET(Doppler)	M12204-06,MRUS,Right Ventricle Ejection Time	
RVPEP/ET(M)	C12204-01,MRUS,Right Ventricle Pre-Ejection Period to Ejection Time Ratio	ImageMode = G-0394,SRT,M Mode;
RVPEP/ET(Doppler)	C12204-01,MRUS,Right Ventricle Pre-Ejection Period to Ejection Time Ratio	
RVOT HR	8867-4,LN,Heart rate	
RVOT Diam(2D)	G-038F,SRT,Cardiovascular Orifice Diameter	ImageMode = G-03A2,SRT,2D mode;
RVOT Diam(M)	G-038F,SRT,Cardiovascular Orifice Diameter	ImageMode = G-0394,SRT,M Mode;
RVOT Vmax	11726-7,LN,Peak Velocity	
RVOT Vmax(RVOT VTI)	11726-7,LN,Peak Velocity	
RVOT Vmean	20352-1,LN,Mean Velocity	
RVOT PGmax	20247-3,LN,Peak Gradient	

LA Vol(A2C)	G-0383,SRT,Left Atrium Systolic Volume	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19B,SRT,Apical two chamber; Method = 125208,DCM,Method of Disks, Single Plane
LA Vol(A4C)	G-0383,SRT,Left Atrium Systolic Volume	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method = 125208,DCM,Method of Disks, Single Plane
LA Major	M12205-01,MRUS,Left atrium Major	ImageMode = G-03A2,SRT,2D mode;
LA Minor	M12205-02,MRUS,Left atrium Minor	ImageMode = G-03A2,SRT,2D mode;
LeftA.AR/LA.M	C12205-01,MRUS,Aortic Root to Left Atrium Ratio	

B.41.4. Right Atrium Measurements

MODALITY Label	***DICOM Mapping***	***Optional Modifiers***
RAP	18070-3,LN,Right Atrium Systolic Pressure	
RA Area	17988-7,LN,Right Atrium Systolic Area	ImageMode = G-03A2,SRT,2D mode;
RA Major	M12206-01,MRUS,Right atrium Major	ImageMode = G-03A2,SRT,2D mode;
RA Minor	M12206-02,MRUS,Right atrium Minor	ImageMode = G-03A2,SRT,2D mode;
RA Vol(A4C)	M12206-03,MRUS,Right atrium Volume	ImageMode = G-03A2,SRT,2D mode; ImageView = G-A19C,SRT,Apical four chamber; Method = 125208,DCM,Method of Disks, Single Plane

B.41.5. Aortic Valve Measurements

MODALITY Label	***DICOM Mapping***	***Optional Modifiers***
ACS(2D)	17996-0,LN,Aortic Valve Cusp Separation	ImageMode = G-03A2,SRT,2D mode;
ACS(M)	17996-0,LN,Aortic Valve Cusp Separation	ImageMode = G-0394,SRT,M Mode;
AV AccT/ET	G-0382,SRT,Ratio of Aortic Valve Acceleration Time to Ejection Time	
AV HR	8867-4,LN,Heart rate	
AR Flow	33878-0,LN,Volume Flow	Flow Direction =R-42E61,SRT,Regurgitant Flow; Method =125216,DCM,Proximal Isovelocity Surface Area

AR Flow Rate	34141-2,LN,Peak Instantaneous Flow Rate	Flow Direction =R-42E61,SRT,Regurgitant Flow; ImageMode = R-409E2, SRT, Doppler Color Flow; Method =125216,DCM,Proximal Isovelocity Surface Area
AVA	G-038E,SRT,Cardiovascular Orifice Area	Flow Direction =R-42047,SRT,Antegrade Flow; ImageMode = G-03A2,SRT,2D mode; Method =125220,DCM,Planimetry
AVA(VTI)	G-038E,SRT,Cardiovascular Orifice Area	Flow Direction =R-42047,SRT,Antegrade Flow; Method =125215,DCM,Continuity Equation by Velocity Time Integral
AV Diam(2D)	G-038F,SRT,Cardiovascular Orifice Diameter	ImageMode = G-03A2,SRT,2D mode;
AV Diam(Qp/Qs)	G-038F,SRT,Cardiovascular Orifice Diameter	ImageMode = G-03A2,SRT,2D mode;
AR Fraction	G-0390,SRT,Regurgitant Fraction	Flow Direction =R-42E61,SRT,Regurgitant Flow; Method =125216,DCM,Proximal Isovelocity Surface Area
AR Ved	11653-3,LN,End Diastolic Velocity	Flow Direction = R-42E61,SRT,Regurgitant Flow
AV Vmax	11726-7,LN,Peak Velocity	Flow Direction = R-42047,SRT,Antegrade Flow;
AR Vmax	11726-7,LN,Peak Velocity	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AR Vmax(AR VTI)	11726-7,LN,Peak Velocity	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AR Vmax(AR PHT)	11726-7,LN,Peak Velocity	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AR Vmax(PISA AR)	11726-7,LN,Peak Velocity	Flow Direction = R-42E61,SRT,Regurgitant Flow; Method =125216,DCM,Proximal Isovelocity Surface Area
AV Vmax(AV VTI)	11726-7,LN,Peak Velocity	Flow Direction = R-42047,SRT,Antegrade Flow;
AV Vmean	20352-1,LN,Mean Velocity	Flow Direction = R-42047,SRT,Antegrade Flow;
AR Vmean	20352-1,LN,Mean Velocity	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AV PGmax	20247-3,LN,Peak Gradient	Flow Direction = R-42047,SRT,Antegrade Flow;
AR PGmax	20247-3,LN,Peak Gradient	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AV PGmax(AV VTI)	20247-3,LN,Peak Gradient	Flow Direction = R-42047,SRT,Antegrade Flow;
AR PGmax(AR VTI)	20247-3,LN,Peak Gradient	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AR PGmax(AR PHT)	20247-3,LN,Peak Gradient	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AV PGmean	20256-4,LN,Mean Gradient	Flow Direction = R-42047,SRT,Antegrade Flow;
AR PGmean	20256-4,LN,Mean Gradient	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AV VTI	20354-7,LN,Velocity Time Integral	Flow Direction = R-42047,SRT,Antegrade Flow;
AR VTI	20354-7,LN,Velocity Time Integral	Flow Direction = R-42E61,SRT,Regurgitant Flow;

AV VTI(Qp/Qs)	20354-7,LN,Velocity Time Integral	Flow Direction = R-42047,SRT,Antegrade Flow;
AR VTI(PISA AR)	20354-7,LN,Velocity Time Integral	Flow Direction = R-42E61,SRT,Regurgitant Flow; Method =125216,DCM,Proximal Isovelocity Surface Area
AV VTI(AVA VTI)	20354-7,LN,Velocity Time Integral	Flow Direction = R-42047,SRT,Antegrade Flow;
AR PHT	20280-4,LN,Pressure Half-Time	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AV AccT	20168-1,LN,Acceleration Time	Flow Direction = R-42047,SRT,Antegrade Flow;
AV DecT	20217-6,LN,Deceleration Time	Flow Direction = R-42047,SRT,Antegrade Flow;
AR DcT	20217-6,LN,Deceleration Time	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AR DecT	20217-6,LN,Deceleration Time	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AV Dec Slope	20216-8,LN,Deceleration Slope	Flow Direction = R-42047,SRT,Antegrade Flow;
AR Dec Slope	20216-8,LN,Deceleration Slope	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AV Acc Slope	M12222-02,MRUS,Acceleration Slope	Flow Direction = R-42047,SRT,Antegrade Flow;
AR Rad	M12222-06,MRUS,Flow Radius	Flow Direction = R-42E61,SRT,Regurgitant Flow; ImageMode = R-409E2, SRT, Doppler Color Flow;
AR Als.Vel	M12222-05,MRUS,Aliasing Velocity	Flow Direction = R-42E61,SRT,Regurgitant Flow; ImageMode = R-409E2, SRT, Doppler Color Flow;
AR Time	M12222-04,MRUS,Time	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AR DcR	M12222-03,MRUS,Deceleration Rate	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AV θ	M12222-01,MRUS,Angle	Flow Direction = R-42047,SRT,Antegrade Flow;
AR θ	M12222-01,MRUS,Angle	Flow Direction = R-42E61,SRT,Regurgitant Flow;
AV SV	F-32120,SRT,Stroke Volume	
AV CO	F-32100,SRT,Cardiac Output	
AV CI	F-32110,SRT,Cardiac Index	
AV SI	F-00078,SRT,Stroke Index	
PISA	M12222-09,MRUS, Effective Regurgitant Orifice Area	

B.41.6. Mitral Valve Measurements

MODALITY Label	***DICOM Mapping***	***Optional Modifiers***
MV A Vel	17978-8 LN Mitral Valve A-Wave Peak Velocity	Image Mode = G-0394,SRT,M Mode
MV A Vel	17978-8,LN,Mitral Valve A-Wave Peak Velocity	

MV A Vel(MV A VTI)	17978-8,LN,Mitral Valve A-Wave Peak Velocity	
MV A Vel(MV E/A)	17978-8,LN,Mitral Valve A-Wave Peak Velocity	
MV E Vel	18037-2,LN,Mitral Valve E-Wave Peak Velocity	
MV E Vel(MV E VTI)	18037-2,LN,Mitral Valve E-Wave Peak Velocity	
MV E Vel(MV E/A)	18037-2,LN,Mitral Valve E-Wave Peak Velocity	
MV E/A	18038-0,LN,Mitral Valve E to A Ratio	
MV E/A(MV E/A)	18038-0,LN,Mitral Valve E to A Ratio	
MV AccT/DecT	G-0386,SRT,Mitral Valve AT/DT Ratio	
MV E-F Slope	18040-6,LN,Mitral Valve E-F Slope by M-Mode	ImageMode = G-0394,SRT,M Mode ;
EPSS(2D)	18036-4,LN,Mitral Valve EPSS, E wave	ImageMode = G-03A2,SRT,2D mode ;
EPSS(M)	18036-4,LN,Mitral Valve EPSS, E wave	ImageMode = G-0394,SRT,M Mode ;
MV A Dur	G-0385,SRT,Mitral Valve A-Wave Duration	
MV C-O dur(M)	G-0387,SRT,Mitral Valve Closure to Opening Time	ImageMode = G-0394,SRT,M Mode ;
MV C-O dur(Doppler)	G-0387,SRT,Mitral Valve Closure to Opening Time	
dP/dt	18035-6,LN,Mitral Regurgitation Dp/dt derived from Mitral Reg. velocity	Flow Direction =R-42E61,SRT,Regurgitant Flow;
MCS(2D)	M12207-01,MRUS,Mitral valve cusp separate distance	ImageMode = G-03A2,SRT,2D mode ;
MCS(M)	M12207-01,MRUS,Mitral valve cusp separate distance	ImageMode = G-0394,SRT,M Mode ;
MV D-E Slope	M12207-02,MRUS,Mitral Valve D-E Slope	ImageMode = G-0394,SRT,M Mode ;
MV A Amp	M12207-03,MRUS,Amplitude of the A wave	ImageMode = G-0394,SRT,M Mode ;
MV E Amp	M12207-04,MRUS,Amplitude of the E wave	ImageMode = G-0394,SRT,M Mode ;
MV DE	M12207-05,MRUS,Amplitude from D Point to E Point	ImageMode = G-0394,SRT,M Mode ;
MV E PG	M12207-06,MRUS,Mitral Valve E-wave Pressure Gradient	
MV A PG	M12207-07,MRUS,Mitral Valve A-wave Pressure Gradient	
MV E VTI	M12207-08,MRUS,E wave Velocity Time Integral	Flow Direction =R-42047,SRT,Antegrade Flow;
MV A VTI	M12207-09,MRUS,A wave Velocity Time Integral	Flow Direction =R-42047,SRT,Antegrade Flow;
MV E Dur	M12207-10,MRUS,Mitral Valve E-Wave Duration	

Sa(medial)	M12207-11,MRUS,Systolic Velocity of the Mitral Annulus(medial)	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Ea(medial)	M12207-12,MRUS,Early diastolic velocity of the mitral annulus(medial)	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Aa(medial)	M12207-13,MRUS,Late diastolic velocity of the mitral annulus(medial)	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Ea/Aa(medial)	M12207-14,MRUS,Early diastolic velocity to Late diastolic velocity Ratio	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Ata(medial)	M12207-15,MRUS,Acceleration Time of Early diastolic velocity	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Ara(medial)	M12207-16,MRUS,Acceleration Rate of Early diastolic velocity	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Dta(medial)	M12207-17,MRUS,Deceleration Time of Early diastolic velocity	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Dra(medial)	M12207-18,MRUS,Deceleration Rate of Early diastolic velocity	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Sa(lateral)	M12207-19,MRUS,Systolic Velocity of the Mitral Annulus(lateral)	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Ea(lateral)	M12207-20,MRUS,Early diastolic velocity of the mitral annulus(lateral)	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Aa(lateral)	M12207-21,MRUS,Late diastolic velocity of the mitral annulus(lateral)	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Ea/Aa(lateral)	M12207-22,MRUS,Early diastolic velocity to Late diastolic velocity Ratio	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Ata(lateral)	M12207-23,MRUS,Acceleration Time of Early diastolic velocity	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;

Ara(lateral)	M12207-24,MRUS,Acceleration Rate of Early diastolic velocity	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Dta(lateral)	M12207-25,MRUS,Deceleration Time of Early diastolic velocity	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
Dra(lateral)	M12207-26,MRUS,Deceleration Rate of Early diastolic velocity	ImageMode = IM12224-01,MRUS,Tissue Doppler Imaging;
MS Rad	M12207-27,MRUS,Mitral Stenosis Radius	ImageMode = R-409E2, SRT, Doppler Color Flow; Method = 125216,DCM,Proximal Isovelocity Surface Area
MS Als.Vel	M12207-28,MRUS,Mitral Stenosis Aliasing Velocity	ImageMode = R-409E2, SRT, Doppler Color Flow; Method = 125216,DCM,Proximal Isovelocity Surface Area
MS Vmax	M12207-29,MRUS,Mitral Stenosis Maximum Velocity	
MS Vmax(PISA MS)	M12207-29,MRUS,Mitral Stenosis Maximum Velocity	Method = 125216,DCM,Proximal Isovelocity Surface Area
MS Area	M12207-30,MRUS,Mitral Stenosis Area	Method = 125216,DCM,Proximal Isovelocity Surface Area
MS Pgmax	C12207-01,MRUS,Mitral Stenosis Maximum Pressure Gradient	
MV HR	8867-4,LN,Heart rate	
MR Flow	33878-0,LN,Volume Flow	Flow Direction =R-42E61,SRT,Regurgitant Flow; Method = 125216,DCM,Proximal Isovelocity Surface Area
MR Flow Rate	34141-2,LN,Peak Instantaneous Flow Rate	Flow Direction =R-42E61,SRT,Regurgitant Flow; ImageMode = R-409E2, SRT, Doppler Color Flow; Method = 125216,DCM,Proximal Isovelocity Surface Area
MVA	G-038E,SRT,Cardiovascular Orifice Area	Flow Direction =R-42047,SRT,Antegrade Flow; ImageMode = G-03A2,SRT,2D mode; Method = 125220,DCM,Planimetry

MVA(PHT)	G-038E,SRT,Cardiovascular Orifice Area	Flow Direction =R-42047,SRT,Antegrade Flow; Method = 125210,DCM,Area by Pressure Half-Time
MVA(VTI)	G-038E,SRT,Cardiovascular Orifice Area	Flow Direction =R-42047,SRT,Antegrade Flow; Method = 125215,DCM,Continuity Equation by Velocity Time Integral
MV Diam	G-038F,SRT,Cardiovascular Orifice Diameter	Flow Direction =R-42047,SRT,Antegrade Flow; ImageMode = G-03A2,SRT,2D mode;
MR Fraction	G-0390,SRT,Regurgitant Fraction	Flow Direction =R-42E61,SRT,Regurgitant Flow; Method = 125216,DCM,Proximal Isovelocity Surface Area
MV Vmax	11726-7,LN,Peak Velocity	Flow Direction =R-42047,SRT, Antegrade Flow;
MR Vmax	11726-7,LN,Peak Velocity	Flow Direction =R-42E61,SRT,Regurgitant Flow; ImageMode = G-03A2,SRT,2D mode;
MV Vmax(MV PHT)	11726-7,LN,Peak Velocity	Flow Direction =R-42047,SRT, Antegrade Flow;
MV Vmax(MV VTI)	11726-7,LN,Peak Velocity	Flow Direction =R-42047,SRT, Antegrade Flow;
MR Vmax(MR VTI)	11726-7,LN,Peak Velocity	Flow Direction =R-42E61,SRT,Regurgitant Flow;
MR Vmax(PISA MR)	11726-7,LN,Peak Velocity	Flow Direction =R-42E61,SRT,Regurgitant Flow; Method = 125216,DCM,Proximal Isovelocity Surface Area
MV Vmean	20352-1,LN,Mean Velocity	Flow Direction =R-42047,SRT, Antegrade Flow;
MR Vmean	20352-1,LN,Mean Velocity	Flow Direction =R-42E61,SRT,Regurgitant Flow;
MV Pgmax	20247-3,LN,Peak Gradient	Flow Direction =R-42047,SRT, Antegrade Flow;
MR Pgmax	20247-3,LN,Peak Gradient	Flow Direction =R-42E61,SRT,Regurgitant Flow;

TV E Vel(TV E/A)	18031-5,LN,Tricuspid Valve E Wave Peak Velocity	
TV A Vel	18030	

TR Vmax(PISA TR)	11726-7,LN,Peak Velocity	Flow Direction =R-42E61,SRT,Regurgitant Flow; Method = 125216,DCM,Proximal Isovelocity Surface Area
TR Vmax(RVSP)	11726-7,LN,Peak Velocity	Flow Direction =R-42E61,SRT,Regurgitant Flow;
TV Vmean	20352-1,LN,Mean Velocity	Flow Direction =R-42047,SRT, Antegrade Flow;
TR Vmean	20352-1,LN,Mean Velocity	Flow Direction =R-42E61,SRT,Regurgitant Flow;

TR Rad	M12222-06,MRUS,Flow Radius	Flow Direction =R-42E61,SRT,Regurgitant Flow; ImageMode = R-409E2, SRT, Doppler Color Flow;
TR Als.Vel	M12222-02,MRUS,Aliasing Velocity	ImageMode = R-409E2, SRT, Doppler Color Flow;
TV SV	F-32120,SRT,Stroke Volume	
TV CO	F-32100,SRT,Cardiac Output	
TV CI	F-32110,SRT,Cardiac Index	
TV SI	F-00078,SRT,Stroke Index	
PISA	M12222-09,MRUS, Effective Regurgitant Orifice Area	

B.41.9. Aorta Measurements

MODALITY Label	*DICOM Mapping*	*Optional Modifiers*
Ao Diam(2D)	18015-8,LN,Aortic Root Diameter	ImageMode = G-03A2,SRT,2D mode;
Ao Diam(M)	18015-8,LN,Aortic Root Diameter	ImageMode = G-0394,SRT,M Mode;
Ao Diam(LA/Ao-2D)	18015-8,LN,Aortic Root Diameter	ImageMode = G-03A2,SRT,2D mode;
Ao Diam(LA/Ao-M)	18015-8,LN,Aortic Root Diameter	ImageMode = G-0394,SRT,M Mode;
Ao Arch Diam(2D)	18011-7,LN,Aortic Arch Diameter	ImageMode = G-03A2,SRT,2D mode;
Ao Arch Diam(M)	18011-7,LN,Aortic Arch Diameter	ImageMode = G-0394,SRT,M Mode;
Ao Asc Diam(2D)	18012-5,LN,Ascending Aortic Diameter	ImageMode = G-03A2,SRT,2D mode;
Ao Asc Diam(M)	18012-5,LN,Ascending Aortic Diameter	ImageMode = G-0394,SRT,M Mode;
Ao Isthmus(2D)	18014-1,LN,Aortic Isthmus Diameter	ImageMode = G-03A2,SRT,2D mode;
Ao Isthmus(M)	18014-1,LN,Aortic Isthmus Diameter	ImageMode = G-0394,SRT,M Mode;
Ao Desc Diam(2D)	18013-3,LN,Descending Aortic Diameter	ImageMode = G-03A2,SRT,2D mode;
Ao Desc Diam(M)	18013-3,LN,Descending Aortic Diameter	ImageMode = G-0394,SRT,M Mode;
Ao st junct(2D)	M12212-01,MRUS,Aortic Sinotubular junction Diameter	ImageMode = G-03A2,SRT,2D mode;
Ao st junct(M)	M12212-01,MRUS,Aortic Sinotubular junction Diameter	ImageMode = G-0394,SRT,M Mode;
Ao Sinus Diam(2D)	M12212-02,MRUS,Aortic Sinus Diameter	ImageMode = G-03A2,SRT,2D mode;
Ao Sinus Diam(M)	M12212-02,MRUS,Aortic Sinus Diameter	ImageMode = G-0394,SRT,M Mode;
Duct Art Diam	M12212-03,MRUS,Ductus Artery Diameter	ImageMode = G-03A2,SRT,2D mode;
Pre Ductal	M12212-04,MRUS,Previous Ductal Diameter	ImageMode = G-03A2,SRT,2D mode;
LCA	M12212-05,MRUS,Left Coronary Artery Diameter	ImageMode = G-03A2,SRT,2D mode;
RCA	M12212-06,MRUS,Right Coronary Artery Diameter	ImageMode = G-03A2,SRT,2D mode;
AAo Vmax	11726-7,LN,Peak Velocity	

DAo Vmax	11726-7,LN,Peak Velocity	
AAo PGmax	20247-3,LN,Peak Gradient	
DAo PGmax	20247-3,LN,Peak Gradient	

B.41.10. Pulmonary Artery Measurements

MODALITY Label	*DICOM Mapping*	*Optional Modifiers*
MPA Diam(2D)	18020-8,LN,Main Pulmonary Artery Diameter	ImageMode =G-03A2,SRT,2D mode;
MPA Diam(M)	18020-8,LN,Main Pulmonary Artery Diameter	ImageMode =G-0394,SRT,M Mode;
RPA Diam(2D)	18021-6,LN,Right Pulmonary Artery Diameter	ImageMode =G-03A2,SRT,2D mode;
RPA Diam(M)	18021-6,LN,Right Pulmonary Artery Diameter	ImageMode =G-0394,SRT,M Mode;
LPA Diam(2D)	18019-0,LN,Left Pulmonary Artery Diameter	ImageMode =G-03A2,SRT,2D mode;
LPA Diam(M)	18019-0,LN,Left Pulmonary Artery Diameter	ImageMode =G-0394,SRT,M Mode;
MPA Vmax	G-038A,SRT,Main Pulmonary Artery Peak Velocity	
Post Ductal	M12210-01,MRUS,Posterior ductal Diameter	ImageMode =G-03A2,SRT,2D mode;
PAEDP	C12210-01,MRUS,Pulmonary Artery End Diastolic Pressure	
LPA Vmax	11726-7,LN,Peak Velocity	
RPA Vmax	11726-7,LN,Peak Velocity	
MPA PGmax	20247-3,LN,Peak Gradient	
LPA PGmax	20247	

IVC Vel(Insp)	M12215-02,MRUS,Inferior Vena Cava Velocity	RespiratoryCyclePoint=F-20010,SRT, Inspiration;
IVC Vel(Expir)	M12215-02,MRUS,Inferior Vena Cava Velocity	RespiratoryCyclePoint=F-20020,SRT, Expiration;
SVC Vel(Insp)	M12215-03,MRUS,Superior Vena Cava Velocity	RespiratoryCyclePoint=F-20010,SRT, Inspiration;
SVC Vel(Expir)	M12215-03,MRUS,Superior Vena Cava Velocity	RespiratoryCyclePoint=F-20020,SRT, Expiration;
IVC Inspiration PG	C12215-01,MRUS,Inferior Vena Cava Pressure Gradient	RespiratoryCyclePoint=F-20010,SRT, Inspiration;
IVC Expiration PG	C12215-01,MRUS,Inferior Vena Cava Pressure Gradient	RespiratoryCyclePoint=F-20020,SRT, Expiration;
SVC Inspiration PG	C12215-02,MRUS,Superior Vena Cava Pressure Gradient	RespiratoryCyclePoint=F-20010,SRT, Inspiration;
SVC Expiration PG	C12215-02,MRUS,Superior Vena Cava Pressure Gradient	RespiratoryCyclePoint=F-20020,SRT, Expiration;
IVC-CI	C12215-03,MRUS ,Collapsible index of inferior vena cava	ImageMode =G-03A2,SRT,2D mode;
IVC-DI	C12215-04,MRUS ,Distensibility index of inferior vena cava	ImageMode =G-03A2,SRT,2D mode;
SVC-CI	C12215-05, MRUS,Collapsible index of superior vena cava	ImageMode =G-03A2,SRT,2D mode;
SVC-DI	C12215-06,MRUS ,Distensibility index of superior vena cava	ImageMode =G-03A2,SRT,2D mode;
IVC Depth(Insp)	M12215-04,MRUS,Inferior Vena Cava Depth	RespiratoryCyclePoint=F-20010,SRT, Inspiration; ImageMode =G-03A2,SRT,2D mode;
IVC Depth(Expir)	M12215-04,MRUS,Inferior Vena Cava Depth	RespiratoryCyclePoint=F-20020,SRT, Expiration; ImageMode =G-03A2,SRT,2D mode;
SVC Depth(Insp)	M12215-05,MRUS,Superior Vena Cava Depth	RespiratoryCyclePoint=F-20010,SRT, Inspiration; ImageMode =G-03A2,SRT,2D mode;
SVC Depth(Expir)	M12215-05,MRUS,Superior Vena Cava Depth	RespiratoryCyclePoint=F-20020,SRT, Expiration; ImageMode =G-03A2,SRT,2D mode;

B.41.12. Pulmonary Venous Structure Measurements

MODALITY Label	*DICOM Mapping*	*Optional Modifiers*
PVein A Dur	G-038B,SRT,Pulmonary Vein A-Wave Duration	
PVein D VTI	G-038D,SRT,Pulmonary Vein D-Wave Velocity Time Integral	
PVein S VTI	G-038C,SRT,Pulmonary Vein S-Wave Velocity Time Integral	
PVein S Vel	M12214-01,MRUS,Pulmonary Vein S wave flow Velocity	
PVein D Vel	M12214-02,MRUS,Pulmonary Vein D-wave flow Velocity	
PVein A Vel	M12214-03,MRUS,Pulmonary Vein A-wave flow Velocity	
PVein DecT	M12214-04,MRUS,Pulmonary Vein Deceleration Time	
PVein S/D	M12214-05,MRUS,Pulmonary Vein Ratio of S-Wave velocity to D-wave velocity	
PVein SF	M12214-06,MRUS,Pulmonary Vein Systolic fraction	

B.41.13. Cardiac Shunt Study Measurements

MODALITY Label	*DICOM Mapping*	*Optional Modifiers*
Qp/Qs	29462-9,LN,Pulmonary-to-Systemic Shunt Flow Ratio	
Qp-Qs	M12217-01,MRUS,Pulmonary-sub-Systemic Shunt Flow Difference	
PV HR(Qp/Qs)	8867-4,LN,Heart rate	
AV HR(Qp/Qs)	8867-4,LN,Heart rate	
PV SV(Qp/Qs)	F-32120,SRT,Stroke Volume	
PV CO(Qp/Qs)	F-32100,SRT,Cardiac Output	
AV SV(Qp/Qs)	F-32120,SRT,Stroke Volume	
AV CO(Qp/Qs)	F-32100,SRT,Cardiac Output	

B.41.14. Congenital Anomaly of Cardiovascular System Measurements

MODALITY Label	*DICOM Mapping*	*Optional Modifiers*
PDA Diam	M12218-01,MRUS,Patent Ductus Arteriosus Diameter	ImageMode =G-03A2,SRT,2D mode;
PFO Diam	M12218-02,MRUS,Patent Foramen Ovale Diameter	ImageMode =G-03A2,SRT,2D mode;
PDA Vel(d)	M12218-03,MRUS,Patent Ductus Arteriosus Diastolic Velocity	
PDA Vel(s)	M12218-04,MRUS,Patent Ductus Arteriosus Systolic Velocity	
Coarc Pre-Duct	M12218-05,MRUS,Coarctation of Pre-Ductus Velocity	

C. Appendix : Vascular structured reporting template

This appendix lists the DICOM Structured Report (SR) mappings used in the Vascular Structured Reports of ultrasound system SR files.

The mappings are organized in a manner similar to the DICOM SR Templates as described in PS 3.16 of the DICOM Standard. The Vascular Report mappings follow the DICOM SR Template TID 5100: Vascular Ultrasound Procedure Report, except where noted.

All private code values use the Coding Scheme Designator "MRUS".

C.1. TID (5100) Vascular Ultrasoud Report

This is the template for the root the content tree for the vascular ultrasound procedure report.

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	EV (125100, DCM,	√		
2	>	HAS OBS CONTEXT	CODE	EV (R-40FB8, SRT, emporal periods		DCID (12102) Temporal Periods Relating To Procedure or Therapy	
3	>	HAS CONCEPT MOD	INCL UDE				

9	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12105) Intracranial Cerebral Vessels	
10	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12105) Intracranial Cerebral Vessels	
11	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G-A103, $Anatomy = DCID (12106) Intracranial Cerebral Vessels (unilateral)	
12	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12104) Extracranial Arteries $AnatomyRatio = DCID (12123) Carotid Ratios	

13	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12104) Extracranial Arteries $AnatomyRatio = DCID (12123) Carotid Ratios	
14	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12109) Lower Extremity Arteries $AnatomyRatio = 8581-1,LN,Tibial/brachial index	
15	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12109) Lower Extremity Arteries $AnatomyRatio = 8581-1,LN,Tibial/brachial index	
16	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12110) Lower Extremity Veins	

17	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12110) Lower Extremity Veins	
18	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T-47020, SRT $SectionLaterality = EV (G- $Anatomy = DCID (12107) Upper Extremity Arteries	
19	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12107) Upper Extremity Arteries	
20	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G-A10 $Anatomy = DCID (SELFCID-2) Upper Extremity Arteries(unilateral)	

21	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12108) Upper Extremity Veins	
22	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12108) Upper Extremity Veins	
23	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section		$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12111) Abdominal Arteries (lateral)	
24	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section		$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12111) Abdominal Arteries (lateral)	

25	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T- $SectionLaterality = EV (G-A103, $Anatomy = DCID (12112) Abdominal Arteries (unilateral)	
26	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section		$SectionScope = DT (T- $SectionLaterality = EV (G- $Anatomy = DCID (12113) Abdominal Veins (lateral)	
27	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section		$SectionScope = DT (T-) $SectionLaterality = EV (G- $Anatomy = DCID (12113) Abdominal Veins (lateral)	
28	>	CONTAINS	INCLUDE				

29	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T-71019, $SectionLaterality = EV (G- $Anatomy = DCID (12115) Renal Vessels	
30	>	CONTAINS	INCLUDE	DTID (5103) Vascular Ultrasound Section	√	$SectionScope = DT (T-71019, $SectionLaterality = EV (G- $Anatomy = DCID (12115) Renal Vessels	
31	>	CONTAINS	INCLUDE	DTID (5105) Ultrasound Graft Section			
32	>	CONTAINS	TEXT	(20121120,MRUS, self-defined-Measurementfile)	√		

C.2. TID (1001) Observation Context

This template specifies attributes of observation context that may be defined, extended or replaced at any location in the SR tree.

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1	>	HAS OBS CONTEXT	CODE	EV (121005,DCM,	√	(121006,DCM,	
2	>	HAS OBS CONTEXT	PNAME	EV (121008,DCM,	√	Operator from Info	
3	>	HAS OBS CONTEXT	TEXT	EV (121009,DCM,	√	Institution Name (0008,0080) of the General Equipment Module	

4	>	HAS CONTEXT	OBS	CODE	EV	(121010,DCM, Role	√	in	(121093, "Sonographer")	DCM, the

6	>	CONTAINS	NUM	EV (8302-2, LN, Patient Height	√		

7

10	>	CONTAINS	CONTAINER	(T-45100, SNM3, Common carotid artery)	√		
11	>>	CONTAINS	CONTAINER	(FG3495-01, MRUS, Plaque Description)	√		
12	>>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
13	>>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		
14	>>	CONTAINS	CONTAINER	(FG3495-02, MRUS, Plaque Area)	√		
15	>>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
16	>>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		
17	>	CONTAINS	CONTAINER	(T-45160,SRT,Carotid Bifurcation)	√		
18	>>	CONTAINS	CONTAINER	(FG3495-01, MRUS, Plaque Description)	√		
19	>>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
20	>>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		
21	>>	CONTAINS	CONTAINER	(FG3495-02, MRUS, Plaque Area)	√		
22	>>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
23	>>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		
24	>	CONTAINS	CONTAINER	(T-45300, SRT, Internal Carotid Artery)	√		ICA
25	>>	CONTAINS	CONTAINER	(FG3495-01, MRUS, Plaque Description)	√		
26	>>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
27	>>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		
28	>>	CONTAINS	CONTAINER	(FG3495-02, MRUS, Plaque Area)	√		
29	>>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
30	>>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		
31	>	CONTAINS	CONTAINER	(T-45200,SRT,External Carotid Artery)	√		ECA
32	>>	CONTAINS	CONTAINER	(FG3495-01, MRUS, Plaque Description)	√		
33	>>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
34	>>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		

35	>>	CONTAINS	CONTAINER	(FG3495-02, MRUS, Plaque Area)	√		
36	>>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
37	>>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		
38	>	CONTAINS	CONTAINER	(T-45700 ,SRT ,Vertebral Artery)	√		
39	>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
40	>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		
41	>	CONTAINS	CONTAINER	(T-46100,SRT,Subclavian Artery)	√		
42	>>	CONTAINS	TEXT	(G-A100,SNM3,Right)	√		
43	>>	CONTAINS	TEXT	(G-A101,SNM3,Left)	√		
44	>	CONTAINS	TEXT	(T-46010,SRT,Brachiocephalic trunk)	√		

C.5. TID (5103) Vascular Ultrasound Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT,	√	$SectionScope	
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,	√	$SectionLaterality	
4	>	CONTAINS	INCLUDE	DTID (5104) Vascular Measurement Group	√	$AnatomyGroup = $Anatomy= DCID (12105) Intracranial Cerebral Vessels	
5	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = $AnatomyRatio	Only for Artery of neck

C.6. TID (5103_3_1) Vascular Ultrasound Section

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER		√		
2	>	HAS CONCEPT MOD	CODE	EV (G-	√	$SectionScope	
3	>	CONTAINS	NUM	EV (M12119-10,MRUS, pseudoaneurysm Neck	√		
4	>	CONTAINS	NUM	EV (M12119-09,MRUS, pseudoaneurysm Width	√		
5	>	CONTAINS	NUM	EV (M12119-10,MRUS, pseudoaneurysm Height	√		
6	>	CONTAINS	NUM	EV (M12119-10,MRUS, pseudoaneurysm Lengh	√		

C.7. TID (5104) Vascular Ultrasound Measurement Group

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	$AnatomyGroup			
2	>	HAS CONCEPT MOD	CODE	EV (G-A1F8, SRT,		DCID (12116) Vessel Segment Modifiers	
3	>	HAS CONCEPT MOD	CODE	EV (125101,		DCID (12117) Vessel Branch Modifiers	

4	>	CONTAINS	INCLUDE	DTID (300) Measurement		$Measurement = DCID (12119) Vascular Ultrasound Property $Derivation = DCID (3627) Measurement Type	
5	>>	HAS CONCEPT MOD	CODE	EV (R-4089A,		DCID (12233) Cardiac Phase	
6	>>	HAS CONCEPT MOD	CODE	EV (R-41FFC, period related to		DT (G-A491, SRT, "Post-prandial")	

C.8. CID (12104) Extracranial Arteries

CSD	CV	Code Meaning
SRT	T-45170	Carotid Bulb
SRT	T-45100	Common Carotid Artery
SRT	T-45200	External Carotid Artery
SRT	T-45300	Internal Carotid Artery
SRT	T-46100	Subclavian Artery
SRT	T-45700	Vertebral Artery

C.9. CID (12105) Intracranial Cerebral Vessels

CSD	CV	Code Meaning
SRT	T-45540	Anterior Cerebral Artery
SRT	T-45600	Middle Cerebral Artery
SRT	T-45900	Posterior Cerebral Artery
SRT	T-45320	Posterior Communicating Artery

C.10. CID (12106) Intracranial Cerebral Vessels (unilateral)

CSD	CV	Code Meaning
SRT	T-45800	Basilar Artery
SRT	T-45530	Anterior Communicating Artery
MRUS	V12106-01	Basilar Vein

C.11. CID (12107) Upper Extremity Arteries

CSD	CV	Code Meaning
SRT	T-47100	Axillary Artery
SRT	T-47160	Brachial Artery
SRT	T-47300	Radial Artery
SRT	T-46100	Subclavian Artery
SRT	T-47200	Ulnar Artery

C.12. CID (SELFCID-2) Upper Extremity Arteries(unilateral)

CSD	CV	Code Meaning
SRT	T-46010	Innominate Artery

C.13. CID (12108) Upper Extremity Veins

CSD	CV	Code Meaning
SRT	T-49110	Axillary vein
SRT	T-48052	Basilic vein
SRT	T-49350	Brachial vein
SRT	T-49240	Cephalic vein
SRT	T-49340	Radial vein
SRT	T-48330	Subclavian vein
SRT	T-49330	Ulnar vein

C.14. CID (12109) Lower Extremity Arteries

CSD	CV	Code Meaning
SRT	T-46710	Common Iliac Artery
SRT	T-47700	Anterior Tibial Artery
SRT	T-47400	Common Femoral Artery
SRT	T-47741	Dorsalis Pedis Artery
SRT	T-46910	External Iliac Artery
SRT	T-46740	Internal Iliac Artery
SRT	T-47630	Peroneal Artery
SRT	T-47500	Popliteal Artery
SRT	T-47600	Posterior Tibial Artery
SRT	T-47440	Profunda Femoris Artery

CSD	CV	Code Meaning
SRT	T-47403	Superficial Femoral Artery
MRUS	V12109-01	TP Trunk Artery

C.15. CID (12110) Lower Extremity Veins

CSD	CV	Code Meaning
SRT	T-49630	Anterior Tibial Vein
SRT	G-035B	Common Femoral Vein
SRT	T-48920	Common Iliac Vein
SRT	T-48930	External Iliac Vein
SRT	T-4942D	

C.17. CID (12114) Abdominal Veins (unilateral)

CSD	CV	Code Meaning
SRT	T-48720	Hepatic Vein
SRT	T-48726	Middle Hepatic Vein
SRT	T-48810	Portal Vein
SRT	T-48710	Inferior Vena Cava
SRT	T-48890	Splenic Vein
SRT	T-48840	Superior Mesenteric Vein
MRUS	V12114-01	Main Portal Vein
MRUS	SRT	Inferior Mesenteric Vein

C.18. CID (12115) Renal Vessels

CSD	CV	Code Meaning
SRT	T-46600	Renal Artery
SRT	T-48740	Renal Vein
SRT	T-46659	Segmental Artery
SRT	T-4668A	Arcuate Artery of the Kidney
SRT	T-4667D	Interlobar Artery of Kidney
MRUS	V12115-01	Main Renal Artery

C.19. CID (12116) Vessel Segment Modifiers

CSD	CV	Code Meaning
SRT	G-A119	Distal
SRT	G-A188	Mid-longitudinal
SRT	G-036A	Origin of vessel
SRT	G-A118	Proximal
SRT	R-1025B	Dilated portion of segment

C.20. Mapping between Modality measurements and DICOM Concepts.

C.20.1. Vascular Measurements

MODALITY Label	*DICOM Mapping*	*Contain Content*
<Vasculature Anatomic Location> ED	11653-3, LN, End Diastolic Velocity	
<Vasculature Anatomic Location> MD	11665-7 , LN, Minimum Diastolic Velocity	
<Vasculature Anatomic Location> PS	11726-7, LN, Peak Systolic Velocity	
<Vasculature Anatomic Location> TAMEAN	20352-1, LN, Time averaged mean velocity	
<Vasculature Anatomic Location> TAMAX	11692-	

MODALITY Label	*DICOM Mapping*	*Contain Content*
<Vasculature Anatomic Location>Reflux time	M12119-11,MRUS,Reflux time	1 C.Iliac V Reflux time 2 Ex.Iliac V Reflux time 3 IIV Reflux time 4 Femoral V Reflux time 5 CFV Reflux time 6 DFV Reflux time 7 SFV Reflux time 8 Popliteal V Reflux time 9 TP Trunk V Reflux time 10 Sural V Reflux time 11 Soleal V Reflux time 12 Peroneal V Reflux time 13 P.Tib. V Reflux time 14 Saph V Reflux time 15 SSV Reflux time 16 IVC Reflux time 17 A.Tib. V Reflux time
<Vasculature Anatomic Location> Splenic V Diam	M12119-12,MRUS,Splenic V Diam	Splenic Vein
<Vasculature Anatomic Location> Splenic A Diam	M12119-13,MRUS,Splenic A Diam	Splenic Arteries
<Vasculature Anatomic Location> Aorta Sten D	C12119-1,MRUS,Aorta Sten D	Abdominal Arteries
<Vasculature Anatomic Location> Aorta Sten A	C12119-2,MRUS,Aorta Sten A	Abdominal Arteries
<Vasculature Anatomic Location> Aneurysm Length	M12119-14,MRUS,Aneurysm Length	Abdominal Arteries
<Vasculature Anatomic Location> Aneurysm Height	M12119-15,MRUS,Aneurysm Height	Abdominal Arteries
<Vasculature Anatomic Location> Aneurysm Width	M12119-16,MRUS,Aneurysm Width	Abdominal Arteries

MODALITY Label	*DICOM Mapping*	*Contain Content*
<Vasculature Anatomic Location> inner diameter	M12119-17,MRUS,inner diameter	Cephalic V Depth Basilic V Depth Axill. V Depth Brachial V Depth Ulnar V Depth Radial V Depth C.Iliac V Depth Ex.Iliac V Depth IIV Depth Femoral V Depth CFV Depth DFV Depth SFV Depth Pop V Depth TP Trunk V Depth Sural V Depth Soleal V Depth Peroneal V Depth A.Tib. V Depth P.Tib. V Depth Saph V Depth SSV Depth
<Vasculature Anatomic Location> Depth	G-D785,SRT,Depth	Cephalic V Diam Basilic V Diam Axill. V Diam Brachial V Diam Ulnar V Diam Radial V Diam C.Iliac V Diam Ex.Iliac V Diam IIV Diam Femoral V Diam CFV Diam DFV Diam SFV Diam Pop V Diam TP Trunk V Diam Sural V Diam Soleal V Diam Peroneal V Diam A.Tib. V Diam P.Tib. V Diam Saph V Diam

C.20.7. Upper Extremity Veins

MODALITY Label	*DICOM Mapping*
Axill V	T-49110,SRT ,Axillary vein
Basilic V	T-48052,SRT,Basilic vein
Brachial V	T-49350,SRT,Brachial vein
Cephalic V	T-49240,SRT,Cephalic vein
Radial V	T-49340,SRT,Radial vein
Subclav V	T-48330,SRT,Subclavian vein
Ulnar V	T-49330,SRT,Ulnar vein

C.20.8. Lower Extremity Arteries

MODALITY Label	*DICOM Mapping*
C.Iliac A	T-46710,SRT,Common Iliac Artery
A.Tib A	T-47700,SRT ,Anterior Tibial Artery
CFA	T-47400,SRT ,Common Femoral Artery
Dors.Ped A	T-47741,SRT,Dorsalis Pedis Artery
Ex.Iliac A	T-46910,SRT ,External Iliac Artery
IIA	T-46740,SRT ,Internal Iliac Artery
Peroneal A	T-47630,SRT ,Peroneal Artery
Pop A	T-47500,SRT ,Popliteal Artery
P.Tib A	T-47600,SRT ,Posterior Tibial Artery
PFA	T-47440,SRT ,Profunda Femoris Artery
SFA	T-47403 ,SRT ,Superficial Femoral Artery
TP Trunk A	V12109-01,MRUS,TP Trunk Artery

C.20.9. Lower Extremity Veins

MODALITY Label	*DICOM Mapping*
A.Tib V	T-49630,SRT,Anterior Tibial Vein
CFV	G-035B,SRT,Common Femoral Vein
C.Iliac V	T-48920,SRT,Common Iliac Vein
Ex.Iliac V	T-48930,SRT,External Iliac Vein
Sural V	T-4942D,SRT,Gastrocnemius vein
Saph V	T-49530,SRT,Great Saphenous Vein
SSV	T-49550,SRT,Lesser Saphenous Vein

Peroneal V	T-49650,SRT,Peroneal Vein
Pop V	T-49640,SRT,Popliteal Vein
P.Tib V	T-49620,SRT,Posterior Tibial Vein
PFV	T-49660,SRT,Profunda Femoris Vein
Soleal V	G-036B,SRT,Soleal vein
SFV	G-035A,SRT,Superficial Femoral Vein
IIV	T-48940,SRT,Internal iliac vein
Femoral V	T-49410,SRT,Femoral vein
TP Trunk V	V12110-01,MRUS,TP Trunk Vein

C.20.10. Abdominal Arteries (unilateral)

MODALITY Label	***DICOM Mapping***
Abdominal Aorta	T-42000,SRT,Aorta
Celiac Axis	T-46400,SRT,Celiac Axis
C Hepatic A	T-46421,SRT,Common Hepatic Artery
Hepatic A	T-46422,SRT,Proper Hepatic Artery

Splenic A

Ren A Org	T-46600,SRT,Renal Artery
Renal A	T-46600,SRT,Renal Artery
Renal V	T-48740,SRT,Renal Vein
Segment A	T-46659, SRT, Segmental Artery
Arcuate A	T-4668A, SRT, Arcuate Artery of the Kidney
Interlobar A	T-4667D, SRT, Interlobar Artery of Kidney
M Renal A	V12115-01, MRUS, Main Renal Artery

D. Appendix : Breast Imaging structured reporting template

This appendix lists the DICOM Structured Report (SR) mappings used in the Breast Structured Reports of ultrasound system SR files.

The mappings are organized in a manner similar to the DICOM SR Templates as described in PS 3.16 of the DICOM Standard. The Breast Report mappings follow the DICOM SR Template TID 4200: Breast Imaging Report, except where noted.

All private code values use the Coding Scheme Designator "MRUS".

D.1. TID 1400 Linear Measurement Template

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			NUM				UNITS = DCID(7460)
2	>	INFERRED FROM	SCOORD	EV (121055,DCM,			
3	>>	R					

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
		CONCEPT MOD					

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
8	>	HAS PROPERTIES	DATE	EV (111060,			

D.4. TID (4202) BREAST IMAGING REPORT NARRATIVE

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	EV (111412, DCM,			
2	>	CONTAINS	CONTAINER	BCID (6052) Breast Imaging Report Section Title			
3	>>	HAS OBS CONTEXT	INCLUDE	DTID (1002) Observer Context			
4	>>	CONTAINS	TEXT				

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
8	>	CONTAINS	TEXT	EV (I12101-			
9	>	CONTAINS	TEXT				
10	>	CONTAINS	TEXT	EV (I12101-			
11	>	CONTAINS	TEXT				

D.6. TID (4206) BREAST IMAGING REPORT FINDING SECTION

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	EV (121070,			
2	>	HAS OBS CONTEXT	INCLUDE	DTID (1002) Observer Context			
3	>	CONTAINS	INCLUDE	DTID (4201) Breast Imaging Procedure Reported			
4	>	CONTAINS	CODE	DTID (SELFTMP-4) BREAST IMAGING MASS FINDING	**(10 findings)**		
5	>	CONTAINS	INCLUDE	EV (T6006-11, MRUS			
6	>	CONTAINS	INCLUDE	EV (T6006-13, MRUS			

D.7. TID (4208) BREAST IMAGING REPORT SUPPLEMENTARY DATA

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	EV (111414, DCM,			
2	>	CONTAINS	INCLUDE	DTID (4201) Breast Imaging			

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
				Procedure Reported			
3	>	CONTAINS	CODE				DCID (230) Yes-No
4	>	CONTAINS	CODE				DCID (230) Yes-No
5	>	CONTAINS	INCLUDE	DTID (4205) Breast CompC Q reW* nBT/F3 8.04 T			

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	EV (125007 Measurement Group			
2	>	CONTAINS	INCLUDE	DTID (1400) Linear Measurement Template			"$Measurement = G-A22A, SRT, ""Length"";$Laterality = $Laterality;$Section = 6019"
3	>	CONTAINS	INCLUDE	DTID (1400) Linear Measurement Template			"$Measurement = G-A220, SRT, ""Width"";$Laterality = $Laterality;$Section = 6019"
4	>	CONTAINS	INCLUDE	DTID (1400) Linear Measurement Template			"$Measurement = 121207, DCM, ""Height"";$Laterality = $Laterality;$Section = 6019"
5	>	CONTAINS	INCLUDE	DTID (1400) Linear Measurement Template			"$Measurement = 121242, DCM, ""Distance from nipple"";$Laterality = $Laterality;$Section = 6019"
6	>	CONTAINS	INCLUDE	DTID (1400) Linear Measurement Template			"$Measurement = 121243, DCM, ""Distance from skin"";$Laterality = $Laterality;$Section = 6019"

D.10. TID (SELFTMP-6) BREAST MASS ANALYSIS

This is a private template referenced by TID (SELFTMP-4).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1	>	CONTAINS	TEXT	EV (M-020F9, SRT			
2	>	CONTAINS	TEXT	EV (T6006-1, MRUS			
3	>	CONTAINS	TEXT	EV (T6006-			
4	>	CONTAINS	TEXT	EV (T6006-3,			
5	>	CONTAINS	TEXT	EV (T6006-4			
6	>	CONTAINS	TEXT	EV (T6006-5			
7	>	CONTAINS	TEXT	EV (T6006-14,			
8	>	CONTAINS	TEXT	EV (T6006-7,			

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
9	>	CONTAINS	TEXT	EV (T6006-8			
10	>	CONTAINS	TEXT	EV (T6006-9,			
11	>	CONTAINS	TEXT	EV (T6006-10, MRUS, Multiple Homogeneous Masses			
12	>	CONTAINS	TEXT	EV (T6006-15			

D.11. Mapping between Modality measurements and DICOM Concepts.

D.11.1. Breast Measurements

MODALITY Label	*DICOM Mapping*
Mass L	G-A22A, SRT, Length
Mass W	G-A220, SRT, Width
Mass H	121207, DCM, Height
Mass Nipple-Mass Dist	121242, DCM, Distance from nipple
Mass Skin-Mass Dist	121243, DCM, Distance from skin
Mass Shape	M-020F9, SRT, Shape
Mass Contour & Margin	T6006-1, MRUS, Contour&Margin
Mass Capsule	T6006-2, MRUS, Capsule
Mass Height/Width	T6006-3, MRUS, Height/Width
Mass Echo Inside(to fat)	T6006-4, MRUS, Echo Inside(to fat)
Mass Posterior Echo	T6006-5, MRUS, Posterior Echo
Mass Vascularity	T6006-14, MRUS, Vascularity
Mass Surrounding Tissue	T6006-7, MRUS, Surrounding Tissue
Mass Elasticity	T6006-8, MRUS, Elasticity
Mass Calcifications	T6006-9, MRUS, Calcifications
Mass Multiple Homogeneous Mass	T6006-10, MRUS, Multiple Homogeneous Masses
Mass RI	T6006-15, MRUS, RI

Note: The maximum of mass findings is 10

E. Appendix : Abdomen Imaging structured reporting template

This appendix lists the DICOM Structured Report (SR) mappings used in the Abdomen Structured Reports of ultrasound system SR files.

The mappings are organized in a manner similar to the DICOM SR Templates as described in PS 3.16 of the DICOM Standard. The Abdomen Report mappings follow the self DICOM SR Template TID 0100: Abdomen Ultrasound Procedure Report, except where noted.

All private code values use the Coding Scheme Designator "MRUS".

E.1. TID (0100) Abdomen Ultrasoud Report

This is the template for the root the content tree for the Abdomen ultrasound procedure report.

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
1			CONTAINER	EV (MR0100-01, MRUS, Abdomen Ultrasound Procedure Report)			
2	>	HAS CONCEPT MOD	INCLUDE	DTID (1001) Observation Context			
3	>	CONTAINS	INCLUDE	DTID (0101) Abdomen Patient Characteristics			
4	>	CONTAINS	CONTAINER				
5	>>	CONTAINS	IMAGE	No purpose of reference			
6	>	CONTAINS	INCLUDE	DTID (0102) Abdomen Procedure Summary Section			
7	>	CONTAINS	INCLUDE	DTID (0103) Abdomen Ultrasound Section			$SectionScope=T-62000,SRT,Liver;$SectionLaterality = G-A103, SRT,Unilateral
8	>	CONTAINS	INCLUDE	DTID (0104) Abdomen Ultrasound Section			$SectionScope=T-63000,SRT,Gallbladder;$SectionLaterality =

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
							G-A103, SRT,Unilateral

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
				Section			RT,Ureter;$SectionLaterality = G-A100, SRT,Right
15	>	CONTAINS	INCLUDE	DTID (0109) Abdomen Ultrasound Section			$SectionScope=T-47040,SRT,Bladder;$SectionLaterality = G-A103, SRT,Unilateral
16	>	CONTAINS	INCLUDE	DTID (SELFTMP_5103_9) Vascular Ultrasound Section			$SectionScope=T-71019,SRT,Vascular Structure Of Kidney;$SectionLaterality = G-A101, SRT,Left;$AnatomyRatio = 12124
17	>	CONTAINS	INCLUDE	DTID (SELFTMP_5103_9) Vascular Ultrasound Section			$SectionScope=T-71019,SRT,Vascular Structure Of Kidney;$SectionLaterality = G-A100, SRT,Right;$AnatomyRatio = 12124
18	>	CONTAINS	INCLUDE	DTID (SELFTMP_5103_7) Vascular Ultrasound Section			$SectionScope=T-46002,SRT,Artery of Abdomen
19	>	CONTAINS	INCLUDE	DTID (SELFTMP_5103_8) Vascular Ultrasound Section			$SectionScope=T-487A0,SRT,Vein of Abdomen
20	>	CONTAINS	INCLUDE	DTID			$SectionScop

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Condition	Value Set Constraint
				(SELFTMP_5103_10) Vascular Ultrasound Section			e=T-487A0,SRT, Artery of Abdomen;$SectionLaterality=G-A101, SRT,Left
21	>	CONTAINS	INCLUDE	DTID (SELFTMP_5103_10) Vascular Ultrasound Section			$SectionScope=T-487A0,SRT, Artery of Abdomen;$SectionLaterality=G-A100, SRT,Right

E.2. TID (0101) Abdomen Patient Characteristics

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	EV (121118, DCM,			
2	>	CONTAINS	NUM	EV (121033, DCM,	√	Units = DCID (7456) Units of Measure for Age	
3	>	CONTAINS	CODE	EV (121032, DCM,	√	DCID (7455) Sex	
4	>	CONTAINS	NUM	EV (8302-2, LN, Patient Height	√		
5	>	CONTAINS	NUM	EV (29463-7, LN, "Patient Weight")	√		
6	>	CONTAINS	NUM	EV (F-01860, SRT, "Body Mass Index")	√	UNITS = EV (kg/m2, UCUM, "kg/m^2")	
7	>	CONTAINS	TEXT	MRUS 121118-1 Fasting	√		

8	>	CONTAINS	NUM	MRUS 121118-2 ALT	√	U/L	

E.3. TID (0102) Abdomen Procedure Summary Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	COMMENT
1			CONTAINER	DT (121111, DCM,			
2	>	CONTAINS	TEXT	EV (121106, DCM, "Comment")	√		from Info comment
3	>	CONTAINS	TEXT	(I12101-01,MRUS,"Primary Indications")	√		from Info
4	>	CONTAINS	TEXT	(I12101-02,MRUS,"Secondary Indications")	√		from Info
5	>	CONTAINS	TEXT	(I12101-03,MRUS,"CPT4 Code")	√		from Info
6	>	CONTAINS	TEXT	(I12101-04,MRUS,"CPT4 Description")	√		from Info
7	>	CONTAINS	TEXT	EV (121106, DCM, "Comment")	√		From report comment

E.4. TID (0103) Abdomen Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT,	√	$SectionScope	
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,	√	$SectionLaterality	

4	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = DCID(62000)	

E.5. TID (0104) Abdomen Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT,	√	$SectionScope	
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,	√	$SectionLaterality	
4	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = DCID(63000)	

E.6. TID (0105) Abdomen Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT,	√	$SectionScope	
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,	√	$SectionLaterality	
4	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = DCID(65010)	

E.7. TID (0106) Abdomen Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		

E.9. TID (0108) Abdomen Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3,	√	$SectionScope	
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,	√	$SectionLaterality	
4	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (MT-73000-01, MRUS, UreterDiameter); $Laterality=$SectionLaterality	

E.10.TID (0109) Abdomen Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3,	√	$SectionScope	

E.11.TID (SELFTMP_5103_7) Vascular Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, S	√	$SectionScope	
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,	√	$SectionLaterality	
4	>	CONTAINS	INCLUDE	DTID (5104) Vascular Measurement Group	√	$AnatomyGroup = $Anatomy= DCID (12112) Abdominal Arteries (unilateral); $Modifier =DCID(12116)	
5	>	CONTAINS	INCLUDE	EV (T-46002,	√	$Measurement = EV (T-); $Modifier = DCID(12116)	
6	>>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (C12119-2, MRUS, Aorta Sten A);	
7	>>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (C12119-1, MRUS, Aorta Sten D);	
8	>>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (M12119-14, MRUS, Aneurysm Length);	
9	>>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (M12119-15, MRUS, Aneurysm Height);	

10	>>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (M12119-16, MRUS, Aneurysm Width);	
11	>>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (M12119-19, MRUS, Abdominal Aorta Diameter Height);	
12	>>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (M12119-20, MRUS, Abdominal Aorta Diameter Width);	
13	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (M12119-13, MRUS, Splenic A Diam);	
14	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (M12119-21, MRUS, Abdominal Aorta Bifurcate);	
15	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (C12120-1, MRUS, Superior Mesenteric Artery Peak Systolic Velocity/Abdominal Aorta Peak Systolic Velocity);	
16	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (C12120-2, MRUS, Celiac Axis Peak Systolic Velocity/Abdominal Aorta Peak Systolic Velocity);	

E.12.TID (SELFTMP_5103_8) Vascular Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070,	√		

				DCM,			
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3,	√	$SectionScope	
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,	√	$SectionLaterality	
4	>	CONTAINS	INCLUDE	DTID (5104) Vascular Measurement Group	√	$AnatomyGroup = $Anatomy= DCID (12114) Abdominal Arteries (unilateral); $Modifier =DCID(12116)	
5	>	CONTAINS	INCLUDE	DTID (5104) Vascular Measurement Group	√	$AnatomyGroup = $Anatomy= EV (T-48727,SRT, Left Hepatic Vein);	
6	>	CONTAINS	INCLUDE	DTID (5104) Vascular Measurement Group	√	$AnatomyGroup = $Anatomy= EV (T-48725,SRT, Right Hepatic Vein);	
7	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (M12119-12, MRUS, Splenic V Diam);	
8	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (M12119-22, MRUS, Portal V Diam);	

E.13.TID (SELFTMP_5103_9) Vascular Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT	CODE	EV (G-C0E3, SRT,	√	$SectionScope	

		MOD					
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,	√	$SectionLaterality	
4	>	CONTAINS	INCLUDE	DTID (5104) Vascular Measurement Group	√	$AnatomyGroup = $Anatomy= DCID (12115) Abdominal Arteries (unilateral); $Modifier =DCID(12116)	
5	>	CONTAINS	INCLUDE	DTID (5104) Vascular Measurement Group	√	$AnatomyGroup = $Anatomy= EV (T-46600,SRT, Renal Artery); $Modifier = (G-036A,SRT, Origin of vessel)	
6	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (C12119-3, MRUS, Renal Aortic Ratio); $Laterality=$SectionLaterality	

E.14.TID (SELFTMP_5103_10) Vascular Ultrasound Section

This is a private template referenced by TID(0100).

	NL	Rel with Parent	VT	Concept Name	Used in MODALITY	Value Set Constraint	Comment
1			CONTAINER	DT (121070, DCM,	√		
2	>	HAS CONCEPT MOD	CODE	EV (G-C0E3, SRT,	√	$SectionScope	
3	>	HAS CONCEPT MOD	CODE	EV (G-C171, SRT,	√	$SectionLaterality	
4	>	CONTAINS	INCLUDE	DTID (300) Measurement	√	$Measurement = EV (C12119-3, MRUS, Renal	

						Aortic Ratio); $Laterality=$SectionLaterality	

E.15.Mapping between Modality measurements and DICOM Concepts.

E.15.1. Abdomen Measurements

MODALITY Label	*DICOM Mapping*
Liver	MT-62000-01, MRUS

Panc body	MT-65010-02 MRUS,Pancreatic Body
Panc tail	MT-65010-03 MRUS,Pancreatic Tail
Spleen L	MT-C3000-01 MRUS Spleen Length
Spleen H	MT-C3000-02 MRUS Spleen Height
Spleen W	MT-C3000-03 MRUS Spleen Width
Spleen Area	MT-C3000-04 MRUS Spleen Area
Spleen Vol	CT-C3000-02 MRUS Spleen Volume
Adrenal H	MT-71000-01 MRUS Adrenal Height
Adrenal L	MT-71000-02 MRUS Adrenal Length
Adrenal W	MT-71000-03 MRUS Adrenal Width
Cortex	MT-71000-04 MRUS Renal Cortical Thickness
Renal H	MT-71000-05 MRUS Renal Height
Renal L	MT-71000-06 MRUS Renal Length
Renal W	MT-71000-07 MRUS Renal Width
Renal Vol	CT-71000-01 MRUS Renal Volume
Renal Vol(0.523)	CT-71000-02 MRUS Renal Volume1
Renal Lesion1 d1	MT-71000-08 MRUS Renal Lesion1 d1
Renal Lesion1 d2	MT-71000-09 MRUS Renal Lesion1 d2
Renal Lesion1 d3	MT-71000-10 MRUS Renal Lesion1 d3
Renal Lesion2 d1	MT-71000-11 MRUS Renal Lesion2 d1
Renal Lesion2 d2	MT-71000-12 MRUS Renal Lesion2 d2
Renal Lesion2 d3	MT-71000-13 MRUS Renal Lesion2 d3
Renal Lesion3 d1	MT-71000-14 MRUS Renal Lesion3 d1
Renal Lesion3 d2	MT-71000-15 MRUS Renal Lesion3 d2
Renal Lesion3 d3	MT-71000-16 MRUS Renal Lesion3 d3
Renal Cyst1 d1	MT-71000-17 MRUS Renal Cyst1 d1
Renal Cyst1 d2	MT-71000-18 MRUS Renal Cyst1 d2
Renal Cyst1 d3	MT-71000-19 MRUS Renal Cyst1 d3
Renal Cyst2 d1	MT-71000-20 MRUS Renal Cyst2 d1
Renal Cyst2 d2	MT-71000-21 MRUS Renal Cyst2 d2
Renal Cyst2 d3	MT-71000-22 MRUS Renal Cyst2 d3
Renal Cyst3 d1	MT-71000-23 MRUS Renal Cyst3 d1
Renal Cyst3 d2	MT-71000-24 MRUS Renal Cyst3 d2
Renal Cyst3 d3	MT-71000-25 MRUS Renal Cyst3 d3
Ureter Diam	MT-73000-01 MRUS Ureter Diameter
Pre-BL H	MT-74000-01,MRUS,Previous-Bladder Height

Pre-BL L	MT-74000-02,MRUS,Previous-Bladder Length
Pre-BL W	MT-74000-03,MRUS,Previous-Bladder Width
Pre-BL Vol	CT-74000-01,MRUS,Previous-Bladder Volume
Post-BL H	MT-74000-04,MRUS,Posterior-Bladder Height
Post-BL L	MT-74000-05,MRUS,Posterior-Bladder Length
Post-BL W	MT-74000-06,MRUS,Posterior-Bladder Width
Post-BL Vol	CT-74000-02,MRUS,Posterior-Bladder Volume
Mictur.Vol	CT-74000-03,MRUS,Micturated Volume

E.15.2. Abdominal Arteries

MODALITY Label	***DICOM Mapping***
Abdominal Aorta	T-42000,SRT,Aorta
Celiac Axis	T-46400,SRT,Celiac Axis
C Hepatic A	T-46421,SRT,Common Hepatic Artery
Hepatic A	T-46422,SRT,Proper Hepatic Artery
Splenic A	T-46460,SRT,Splenic Artery
SMA	T-46510,SRT,Superior Mesenteric Artery
IMA	T-46520,SRT,Inferior Mesenteric Artery

CA/Ao	**C12120-2,MRUS,Celiac Axis Peak Systolic Velocity/Abdominal Aorta Peak Systolic Velocity**

E.15.3. Abdominal Veins

MODALITY Label	***DICOM Mapping***
Hepatic V	T-48720,SRT,Hepatic Vein
Left Hepatic V	T-48727,SRT,Left Hepatic Vein
Right Hepatic V	T-48725,SRT,Right Hepatic Vein
M Hepatic V	T-48726,SRT,Middle Hepatic Vein
Portal V	T-48810,SRT,Portal Vein
IVC	T-48710,SRT,Inferior Vena Cava
Splenic V	T-48890,SRT,Splenic Vein
SMV	T-48840,SRT,Superior Mesenteric Vein
M Portal V	V12114-01,MRUS,Main Portal Vein
IMV	T-48910,SRT,Inferior Mesenteric Vein
Splenic V Diam	M12119-12,MRUS,Splenic V Diam
Portal V Diam	M12119-22,MRUS,Portal V Diam

E.15.4. Renal Vessels

MODALITY Label	***DICOM Mapping***
Ren A Org	T-46600,SRT,Renal Artery
Renal A	T-46600,SRT,Renal Artery
Renal V	T-48740,SRT,Renal Vein
Segment A	T-46659, SRT, Segmental Artery
Arcuate A	T-4668A, SRT, Arcuate Artery of the Kidney
Interlobar A	T-4667D, SRT, Interlobar Artery of Kidney
M Renal A	V12115-01, MRUS, Main Renal Artery
RAR	C12119-3,MRUS,Renal Aortic Ratio