

# CASE<sup>®</sup>, CardioSoft<sup>®</sup> Version 6

XML Data Export Reference Manual  
2025486-001      Revision A



**GE Medical Systems**  
*Information Technologies*

---

*gemedicalsystems.com*

Trademarked names appear throughout this document. Rather than list the names and entities that own the trademarks or insert a trademark symbol with each mention of the trademarked name, the publisher states that it is using the names only for editorial purposes and to the benefit of the trademark owner with no intention of improperly using the trademark.

900 SC, ACCUSKETCH, AccuVision, APEX, AQUA-KNOT, ARCHIVIST, Autoseq, BABY MAC, CardioSoft, CardioSys, C Qwik Connect, CardioServ, CardioSmart, CardioWindow, CASE, CD TELEMETRY, CENTRA, CHART GUARD, CINE 35, CORO, COROLAN, COROMETRICS, Corometrics Sensor Tip, CRG PLUS, DASH, Digistore, Digital DATAQ, E for M, EAGLE, Event-Link, FMS 101B, FMS 111, HELDIGE, IMAGE STORE, INTELLIMOTION, IQA, LASER SXP, MAC, MAC-LAB, MACTRODE, MANAGED USE, MARQUETTE, MARQUETTE MAC, MARQUETTE MEDICAL SYSTEMS, MARQUETTE UNITY NETWORK, MARS, MAX, MEDITEL, MEI, MEI in the circle logo, MEMOPOINT, MEMOPOINT C, MINISTORE, MINNOWS, Monarch 8000, MULTI-LINK, MULTISCRIPTOR, MUSE, MUSE CV, Neo-Trak, NEUROSCRIPT, OnlineABG, OXYMONITOR, Pres-R-Cuff, PRESSURE-SCRIBE, QMI, QS, Quantitative Medicine, Quantitative Sentinel, RAC RAMS, RSVP, SAM, SEER, SILVERTRACE, SOLAR, SOLARVIEW, Spectra 400, Spectra-Overview, Spectra-Tel, SpiroSoft, ST GUARD, TRAM, TRAM-NET, TRAM-RAC, TRAMSCOPE, TRIM KNOB, Trimline, UNION STATION, UNITY Logo, UNITY NETWORK, Vari-X, Vari-X Cardiomatic, VariCath, VARIDEX, VAS and Vision Care Filter are trademarks of General Electric Company registered in the United States Patent and Trademark Office.

12SL, 15SL, Access, AccuSpeak, ADVANTAGE, BAM, BODYTRODE, Cardiomatic, CardioSpeak, CD TELEMETRY<sup>®</sup>-LAN, CENTRALSCOPE, Corolation, EDIC, EK-Pro, Event-Link Cirrus, Event-Link Cumulus, Event-Link Nimbus, HI-RES, ICMMS, IMAGE VAULT, IMPACT.wf, INTER-LEAD, IQA, LIFEWATCH, Managed Use, MARQUETTE PRISM, MARQUETTE<sup>®</sup> RESPONDER, MENTOR, MicroSmart, MMS, MRT, MUSE CardioWindow, NST PRO, NAUTILUS, O<sub>2</sub>SENSOR, Octanet, OMRS, PHi- Res, Premium, Prism, QUIK CONNECT V, QUICK CONNECT, QT Guard, SMART-PAC, SMARTLOOK, Spiral Lok, Sweetheart, UNITY, Universal, Waterfall, and Walkmom are trademarks of General Electric Company.

GE Medical Systems  
*Information Technologies, Inc.*  
8200 West Tower Avenue  
Milwaukee, WI 53223 USA  
Tel: +1.414.355.5000  
800.558.5120 (USA only)  
Fax: +1.414.355.3790

GE Medical Systems  
*Information Technologies GmbH*  
Munzinger Str. 3  
D-79111 Freiburg, Germany  
Tel: +49.761.45.43.0  
Fax: +49.761.45.43.233

© 2005 General Electric Company. All rights reserved.

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
	<b>Manual Information</b>	<b>3</b>
	Revision History	3
	Manual Purpose	3
	Intended Audience	3
	<b>Race Information</b>	<b>3</b>
<b>2</b>	<b>XML Data Export</b>	<b>5</b>
	<b>Introduction</b>	<b>7</b>
	Operator Interaction	7
	Structure	7
	Details	7
	<b>Exercise Test XML Tags</b>	<b>9</b>
	Standard Test Information	11
	Observation Type	11
	Observation Date/Time	11
	Clinical Information	11
	Reason for Test	12
	Technician	12
	Test Type	12
	Observation Comment	12
	Device Information	13
	Patient Visit	13
	Patient Class	13
	Assigned Location	13
	Admission Type	13
	Attending Doctor	14
	Referring Doctor	14
	Servicing Facility	14
	Order Number	14
	Extra Questions	14
	Patient Information	15
	Patient ID	15
	Name	15
	Age	15
	Birth Date/Time	15
	Gender	15
	Race	16
	Height	16
	Weight	16
	Pacemaker	16
	Alternate Patient ID	16
	Order	17
	Request Number	17
	Order Number	17
	Schedule Time	17
	Ordering Provider	17
	Medical History	18
	Medical History Text	18
	Medications	18
	Drug	18

Exercise Measurements	18
ST Criteria	19
Maximum Workload	19
Exercise Phase Time	20
Maximum Systolic Blood Pressure	20
Maximum Diastolic Blood Pressure	20
Maximum Heart Rate	20
Maximum Predicted Heart Rate	20
Target Heart Rate	21
Percent Achieved of Max Predicted	21
Percent of Max Predicted at Peak Exercise	21
Target Heart Rate Formula	21
Target Load	21
ST/HR Slope	22
Resting Statistics	22
Peak Exercise Statistics	23
Statistics at Max ST	24
ST/HR Index	24
PWC130	25
PWC150	25
PWC170	25
Arrhythmia Count	25
Interpretation	26
Arrhythmias During Exercise	26
ECG Interpretation Before Exercise	26
ECG Interpretation During Exercise	27
Exercise Summary Comment	27
Chest Pain Statement	27
Reason For Termination	27
Overall Heart Rate Response to Exercise	27
Overall Blood Pressure Response to Exercise	27
Functional Capacity	27
Customer Summary Statement	28
Conclusion	28
Confirmed	28
Duke Treadmill Score	28
Angina Index	28
Net ST Deviation	28
Duke Treadmill Score Value	29
Duke Treadmill Scored-Based Risk	29
Average Mortality	29
5 Year Average Mortality	29
Risk Factors	29
Smoker	29
Date Quit Smoking	29
Resting Systolic Blood Pressure	30
Diabetes	30
Left Ventricular Hypertrophy ECG	30
AHA Stroke 10 Year Risk	30
AHA CHD Risk	31
Protocol	31
Device	31
Phase	31
Trend Information	32
Number of Trend Entries	32
Trend Entry	32
Entry Time	32
Heart Rate	32
Pulse Rate	32
SPO2	32

Mets	33
Rate Pressure Product	33
Perceived Exertion	33
VO2	33
VCO2	33
ETCO2	33
Tidal Volume	33
Respiration Rate	34
Cardiac Output	34
VE Count	34
Pace Count	34
Artifact	34
Custom	34
Lead Measurements	34
Speed	35
Load	35
Grade	35
Systolic Blood Pressure	35
Diastolic Blood Pressure	35
Mean Arterial Pressure	35
Phase Time	36
Phase Name	36
Stage Time	36
Stage Number	36
Stage Name	36
Symptom Comment	36
Changes Comment	37
TWA Data	37
TWA Valid	37
TWA Measurements	37
Medians	37
Sample Rate	37
Resolution	38
Median	38
Time	38
I-Point	38
J-Point	38
J+X-Point	38
P-Point	38
PE-Point	39
Q-Point	39
T-Point	39
User Defined I-Point	39
User Defined J-Point	39
User Defined J+X Point	39
Waveform Data	40
TWA Cycles	40
Sample Rate	40
Resolution	40
Cycle	40
Time	40
P-Point	41
PE-Point	41
I-Point	41
Q-Point	41
T-Point	41
J-Point	41
TWA Position	41
Waveform Data Complex 1	42
Waveform Data Complex 2	42

Strips	42
Programmed or User Instigated ECG Strips	42
Sample Rate	42
Resolution	42
Strip	43
Arrhythmia Strips	43
Sample Rate	43
Resolution	43
Strip	43
Full Disclosure	44
Start Time	44
Minute	44
Second	44
Number of Channels	44
Sample Rate	44
Resolution	44
Lead Order	45
Event List	45
Event	45
Full Disclosure Data	45
12SL	46
12SL Date/Time	46
Hour	46
Minute	46
Second	46
Day	46
Month	46
Year	47
Diagnosis Version	47
Diagnosis Text	47
Waveform Data	47
Measurements	47
Q-Wave Duration	47
R-Wave Duration	48
R'-Wave Duration	48
S-Wave Duration	48
R-Wave Peak Duration	48
QT Duration	48
Maximum P-Wave Amplitude	48
P-Wave Amplitude	48
P'-Wave Amplitude	49
Q-Wave Amplitude	49
R-Wave Amplitude	49
R'-Wave Amplitude	49
S-Wave Amplitude	49
S'-Wave Amplitude	49
J-Point Amplitude	49
J+X Amplitude	50
JXE Amplitude	50
Maximum T-Wave Amplitude	50
T-Wave Amplitude	50
T'-Wave Amplitude	50
Delta Significance	50
J+X Slope	50
P-Onset	51
P-Offset	51
QRS-Onset	51
QRS-Offset	51
T-Offset	51
PQ Duration	51

P Duration	51
QRS Width	52
QT Interval	52
Frontal QRS	52
Frontal P-Wave	52
Frontal T-Wave	52
Number of Good Beats	52
Average R-R Interval	52
Alternate QT Interval	53
JxJs Distance	53
Sokolov LVH Index	53
Heart Rate	53
QT Dispersion	53
Acronyms	53
Median	54
P-Wave Onset	54
P-Wave Offset	54
QRS Onset	54
QRS Offset	54
T-Wave Offset	54
Waveform Data	54
<b>Standard Test Information - General XML Tags</b>	<b>55</b>
Observation Type	57
Observation Date/Time	57
Hour	57
Minute	57
Second	57
Day	57
Month	58
Year	58
Clinical Information	58
Reason for Test	58
Technician	58
Observation Comment	58
Device Information	59
Patient Visit	59
Patient Class	59
Assigned Location	59
Patient Room	59
Admission Type	59
Ordering Provider	60
Attending Doctor	60
Referring Doctor	60
Servicing Facility	60
Systolic Blood Pressure	60
Diastolic Blood Pressure	61
Chestpain	61
Medical History	61
Order Number	61
Medications	61
Extra Questions	62
Patient Information	62
Patient ID	62
Name	62
Age	62
Birth Date/Time	63
Gender	63
Race	63
Height	63

Weight	63
Pacemaker	64
<b>Resting ECG XML Tags</b>	<b>65</b>
Standard Test Information	67
Filter Setting	67
Cubic Spline	67
Filter 50 Hz	67
Filter 60 Hz	67
Low Pass	67
High Pass	67
Simulated Patient Data	68
Device-Type	68
Interpretation	68
ACI-TIPI	68
Diagnosis	68
Conclusion	68
Confirmed	69
Resting ECG Measurements	69
Diagnosis Version	69
Ventricular Rate	69
PQ Interval	69
P Duration	69
QRS Duration	70
QT Interval	70
QTC Interval	70
RR Interval	70
PP Interval	70
Sokolov LVH Index	70
P Axis	70
R Axis	71
T Axis	71
QT Dispersion	71
QT Dispersion Bazett	71
Number of QRS	71
Measurement Table	72
Q Onset	72
Q Offset	73
P Onset	73
P Offset	73
T Offset	73
Median Samples	73
Vector Loops	74
Resolution	74
Total Count of Channel Samples	74
Q Onset	74
Q Offset	74
P Onset	74
P Offset	74
T Offset	75
Frontal	75
Horizontal	75
Sagittal	75
Strip Data	75
Number of Leads	75
Sample Rate	75
Total Count of Channel Samples	75
Resolution	76
Waveform Data	76
Arrhythmia Results	76



Full Disclosure	76
Number of Channels	76
Sample Rate	76
Resolution	77
Lead Order	77
Full Disclosure Data	77
Event List	77
<b>Ambulatory Blood Pressure Measurement XML Tags</b>	<b>79</b>
Standard Test Information	81
Simulated Patient Data	81
Device Type	81
Interpretation	81
Conclusion	81
Confirmed	81
ABP General	82
Oscillatory Measurement	82
Statistic Times from Acquisition Device	82
ABP Statistics	82
Start Time	82
End Time	82
Total Number of Measurements	83
Number of valid Measurements	83
Percentage of Systolic Values above Limit	83
Percentage of Diastolic Values above Limit	83
Systolic Limit Value	83
Diastolic Limit Value	83
Statistic Systolic Values	84
Statistic Diastolic Values	84
Statistic Mean Values	85
Statistic Heart Rate Values	86
Histogram	86
ABP Hourly Measurements	87
Start Hour	87
Heart Rate	87
Systolic Values	87
Diastolic Values	87
Mean Values	87
Number	88
ABP Measurement Tables	88
Measurement Period	88
<b>Spirometry XML Tags</b>	<b>89</b>
Standard Test Information	91
Simulated Patient Data	91
Interpretation	91
Diagnosis	91
Conclusion	91
Confirmed	91
SPI General	92
Sensor Type	92
Firmware Version	92
Reference Equation	92
Measurement Mode	92
PT Code Data	92
Ambient Conditions	93
Interpretation Mode	93
ATS Summary	93
SPI General Parameters	94
Parameter IDs	94

Parameter Units	94
Predicted Parameters	94
SPI General Waveform Parameters	94
Flow Increments	94
Flow Resolution	94
Volume Resolution	95
Maximum Flow Value	95
Minimum Flow Value	95
Maximum Volume Value	95
Minimum Volume Value	95
SPI Measurements	95
ATS Acceptability	96
Parameter Values	96
Back Extrapolated Volume	96
Forced Expiration Time	96
Number of Expiratory Flow Samples	96
Number of Inspiratory Flow Samples	96
Number of Expiratory Volume Samples	96
Number of Inspiratory Volume Samples	97
Waveforms	97

# 1 Introduction

For your notes

## Manual Information

### Revision History

Each page of the document has the document part number and a revision letter at the bottom of the page.

The revision letter identifies the document's update level.

<b>Table 1 : Revision History</b>		
<b>PN / Revision</b>	<b>Date</b>	<b>Comment</b>
2025486-001- A	March 2005	Initial release of this document. Corresponds with version 6 software.

### Manual Purpose

This manual contains the reference information pertaining to exporting XML data from the CASE, CardioSoft Version 6 system.

### Intended Audience

The CASE, CardioSoft Version 6 system is intended to be used by trained operators under the direct supervision of a licensed healthcare practitioner in a hospital or clinic environment. Patient population includes both adult and pediatric patients.

### Race Information

The CASE, CardioSoft Version 6 system contains several fields which must be filled in before acquisition of the ECG. Others are optional. It is left to the user to assess whether they are needed to perform the examination. The field titled "Race" is one of these optional fields.

Race information has been acknowledged by the medical profession as useful in the analysis of some pathologies. Be aware that, in some jurisdictions, the processing of data revealing an individual's racial origin is subject to legal requirements, such as obtaining the patient's prior consent. If you elect to collect this type of data, it is your responsibility to ensure that you comply with all applicable legal requirements.

For your notes

## 2 XML Data Export

For your notes



## Introduction

This chapter describes the implementation details of the XML data export feature of CASE, CardioSoft Version 6 systems. The output data format is also defined.

## Operator Interaction

The following section details those aspects of the XML export interface which allow some degree of control by the operator.

The operator is able to select the location and name of the output file. The default location to save the file is the application default working directory.

## Structure

The following chapters are arranged in order of the modalities in the form

- Exercise Test XML Tags
- Standard Test Information – General XML Tags (Common to each of the following modalities)
- Resting ECG XML Tags
- Ambulatory Blood Pressure Measurement XML Tags
- Spirometry XML Tags

The granularity of each modality is shown in the contents list at the beginning of this document.

The listed tags are logically grouped in tables.

The elementary form of a single piece of information is called a field and is represented by one tag.

A section determines a group of interrelated information, also starting with a tag. Sections can be nested.

## Details

The syntactical form of a tag is `<Tag> ... </Tag>`, where *Tag* is the identifier of the column **Tag**, and ... represents the value.

If limits exist for the values the range is given in column **Range**.

An attribute can be added to a tag in the form of `<Tag Attribute= > ... </Tag>`, which is listed in the corresponding column **Attribute**.

The column **Required** specifies whether the corresponding tag must exist in the data record (= Yes), or whether it depends on the settings context (= No). Tags with multiple occurrences (section and/or field) in the same context and on the same hierarchical information level are marked as **Multiple** in the column **Instance**, otherwise as **Single**.

The tag *CardiologyXML* precedes and follows any examination data record.

### Note

- <sup>1)</sup> The XML interface permits the use of dates beyond 2038. The application, however, uses third-party resources which do not correctly handle dates beyond 2038.

For your notes

## Exercise Test XML Tags

For your notes

Tag	Description	Attributes	Range	Required	Instance
CardiologyXML	This field indicates the start of a complete examination data record.	None	---	Yes	Single

### Standard Test Information

#### Observation Type

Tag	Description	Attributes	Range	Required	Instance
ObservationType	This field specifies the observation type to which the following patient record corresponds.	None	[StressTest]	Yes	Single

#### Observation Date/Time

Tag	Description	Attributes	Range	Required	Instance
ObservationDateTime	This section contains the date and time that the test was started.	None	---	Yes	Single
Hour	This field contains the hour of the time the patient was selected and the test was started.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the time the patient was selected and the test was started.	None	[0..59]	Yes	Single
Second	This field contains the second of the time the patient was selected and the test was started.	None	[0..59]	Yes	Single
Day	This field contains the day of the month the patient was selected and the test was started.	None	[1..31]	Yes	Single
Month	This field contains the month the patient was selected and the test was started.	None	[1..12]	Yes	Single
Year	This field contains the year the patient was selected and the test was started.	None	[≤2038] <sup>1)</sup>	Yes	Single

Tag	Description	Attributes	Range	Required	Instance
ObservationEndTime	This section contains the time and date that the test ended.	None	---	Yes	Single
Hour	This field contains the hour of the time the test was ended.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the time the test was ended.	None	[0..59]	Yes	Single
Second	This field contains the second of the time the test was ended.	None	[0..59]	Yes	Single
Day	This field contains the day of the month the test was ended.	None	[1..31]	Yes	Single
Month	This field contains the month the test was ended.	None	[1..12]	Yes	Single
Year	This field contains the year the test was ended.	None	[≤2038] <sup>1)</sup>	Yes	Single

### Clinical Information

Tag	Description	Attributes	Range	Required	Instance
ClinicalInfo	This section contains information regarding the test type, when the test was taken, who administered the test, and other relevant test info.	None	---	Yes	Single

Reason for Test

Tag	Description	Attributes	Max Length	Required	Instance
ReasonForStudy	Also sometimes referred to as test indications, this field contains the text describing the reason for performing the test.	None	The length is limited to the current stress test system application storage length for the szIndication field.	No	Multiple

Technician

Tag	Description	Attributes	Range	Required	Instance
Technician	This section contains the information about the technician performing the test.	None	---	No	Single
PersonID	This field contains the User ID for the technician performing the test.	None	[0..999]	No	Single
FamilyName	This field contains the last name (surname) of the technician performing the test.	None	---	No	Single
GivenName	This field contains the first name (given name) of the technician performing the test.	None	---	No	Single

Test Type

Tag	Description	Attributes	Max. Length	Required	Instance
TestType	This field contains the text describing the test type.	None	The length is limited to the current stress test system application storage length for the szTestType field.	No	Single

Observation Comment

Tag	Description	Attributes	Max. Length	Required	Instance
ObservationComment	This field contains the text describing the test type.	None	The length is limited to the current stress test system application storage length for the szComment field.	No	Single

Device Information

Tag	Description	Attributes	Range	Required	Instance
DeviceInfo	This section contains the device specific information for the test.	None	---	Yes	Single
DeviceID	This field contains the cart number (device ID) of the device on which the test was performed.	None	[0..999]	No	Single
Desc	This field contains the product name of the device on which the test was performed.	None	---	Yes	Single
SoftwareVer	This field contains the application version with which the test was performed.	None	---	Yes	Single
AnalysisVer	This field contains version of the analysis software with which the test was performed.	None	---	Yes	Single

Patient Visit

Tag	Description	Attributes	Range	Required	Instance
PatientVisit	This section contains fields to describe the patient visit.	None	---	No	Single

Patient Class

Tag	Description	Attributes	Range	Required	Instance
PatientClass	This field specifies the patient classification.	None	---	No	Single

Assigned Location

Tag	Description	Attributes	Range	Required	Instance
AssignedPatientLocation	This section specifies the assigned location for the patient.	None	---	No	Single
Facility	This field specifies the facility where the test was taken.	None	---	No	Single
LocationNumber	This field specifies the location number where the test was taken	None	---	No	Single

Tag	Description	Attributes	Range	Required	Instance
PatientRoom	This field specifies the room for the patient.	None	---	No	Single

Admission Type

Tag	Description	Attributes	Range	Required	Instance
AdmissionType	This field specifies the admission type for the facility.	None	[ROUT]	No	Single

Attending Doctor

Tag	Description	Attributes	Range	Required	Instance
AttendingDoctor	This section lists the attending doctor for the stress test.	None	---	No	Single
PersonID	This field contains the attending physician's ID.	None	---	No	Single
FamilyName	This field contains the last name (surname) of the attending physician.	None	---	No	Single
GivenName	This field contains the first name (given name) of the attending physician.	None	---	No	Single

Referring Doctor

Tag	Description	Attributes	Range	Required	Instance
ReferringDoctor	This section lists the referring doctor for the stress test.	None	---	No	Single
PersonID	This field contains the referring physician's ID.	None	---	No	Single
FamilyName	This field contains the last name (surname) of the referring physician.	None	---	No	Single
GivenName	This field contains the first name (given name) of the referring physician.	None	---	No	Single

Servicing Facility

Tag	Description	Attributes	Range	Required	Instance
ServicingFacility	This field contains the name of the institution which is providing the test.	None	---	No	Single
Address	This section contains the address of the servicing facility.	None	---	No	Single
Street1	This field contains the street address of the servicing facility.	None	---	No	Single
City	This field contains the city of the servicing facility.	None	---	No	Single

Order Number

Tag	Description	Attributes	Range	Required	Instance
OrderNumber	This field contains the order number for this exercise	None	---	No	Single

Extra Questions

Tag	Description	Attributes	Range	Required	Instance
ExtraQuestions	This section contains the 2 extra-questions for the examination	None	---	Yes	Single
Label	This field contains the label of the extra-question	Type=[Text, Boolean, Number]	---	Yes	Multiple
Content	This field contains the content of the extra-question	None	---	Yes	Multiple



**Patient Information**

Tag	Description	Attributes	Range	Required	Instance
PatientInfo	This section contains patient demographic information.	None	---	Yes	Single

**Patient ID**

Tag	Description	Attributes	Range	Required	Instance
PID	This field contains the patient ID.	None	---	Yes	Single

**Name**

Tag	Description	Attributes	Range	Required	Instance
Name	This section contains the name of the patient for which this test applies.	None	---	No	Single
FamilyName	This field contains the last name (surname) of the patient for which this test applies.	None	---	No	Single
GivenName	This field contains the given name of the patient for which this test applies.	None	---	No	Single

**Age**

Tag	Description	Attributes	Range	Required	Instance
Age	This field contains the age of the patient.	Units=[Years]	---	No	Single

**Birth Date/Time**

Tag	Description	Attributes	Range	Required	Instance
BirthDate/Time	This section contains the date of birth of the patient. Note that it is not valid for the date of birth to evaluate to a date earlier than the current date.	None	---	No	Single
Day	This field contains the day of the month on which the patient was born.	None	[1..31]	No	Single
Month	This field contains the month in which the patient was born.	None	[1..12]	No	Single
Year	This field contains the 4-digit year in which the patient was born.	None	[0..The current year]	No	Single

**Gender**

Tag	Description	Attributes	Range	Required	Instance
Gender	This field contains the patient gender.	None	[Male, Female]	No	Single

Race

Tag	Description	Attributes	Range	Required	Instance
Race	This field contains the race of the patient.	None	[Caucasian, Black, Asian, Oriental, Hispanic, Am Indian, Eskimo, Hawaiian, Pac islander, Mongolian, Indian, unknown] <b>NOTE</b> Refer to chapter „Race Information“ for more information	No	Single

Height

Tag	Description	Attributes	Range	Required	Instance
Height	This field contains the height of the patient.	Units=[cm, in]	---	No	Single

Weight

Tag	Description	Attributes	Range	Required	Instance
Weight	This field contains the weight of the patient.	Units=[kg, lbs]	---	No	Single

Pacemaker

Tag	Description	Attributes	Range	Required	Instance
PaceMaker	This field indicates whether the patient has a pacemaker.	None	[Yes, No]	No	Single

Alternate Patient ID

Tag	Description	Attributes	Range	Required	Instance
AlternatePID	This field contains the specified alternate patient ID.	None	---	No	Single

**Order**

Tag	Description	Attributes	Range	Required	Instance
Order	This section contains any information regarding orders from a MUSE or other CV management system. The order object members will only be included in the XML document if the request number is non-null.	None	---	No	Single

**Request Number**

Tag	Description	Attributes	Range	Required	Instance
RequestNumber	This field contains the order request number received from MUSE.	None	---	Yes	Single

**Order Number**

Tag	Description	Attributes	Range	Required	Instance
OrderNumber	This field contains the order number received from MUSE.	None	---	No	Single

**Schedule Time**

Tag	Description	Attributes	Range	Required	Instance
ScheduleTime	This field contains the time scheduled for the order.	None	---	No	Single

**Ordering Provider**

Tag	Description	Attributes	Range	Required	Instance
OrderingProvider	This section contains the name and ID of the ordering physician.	None	---	No	Single
PersonID	This field contains the ID of the ordering physician.	None	---	No	Single
FamilyName	This field contains the last name (surname) of the ordering physician.	None	---	No	Single
GivenName	This field contains the first name of the ordering physician.	None	---	No	Single

### Medical History

Tag	Description	Attributes	Range	Required	Instance
MedicalHistory	This section contains the medical history for the patient. While it currently only contains the Medical History Text field, it is envisioned to contain more fields in the future for patient medical history, family history, etc.	None	---	No	Single

### Medical History Text

Tag	Description	Attributes	Range	Required	Instance
MedicalHistoryTxt	This field contains the freetext medical history as entered by the operator.	None	---	No	Single

### Medications

Tag	Description	Attributes	Range	Required	Instance
Medications	This section contains all of the listed medications for the patient.	None	---	No	Single

### Drug

Tag	Description	Attributes	Range	Required	Instance
Drug	This section contains information on an individual medication taken by or administered to the patient.	None	---	Yes	Multiple
DrugName	This field contains the name of the medication.	None	---	Yes	Single
Dosage	This field contains the dosage of the specified medication.	None	---	No	Single

### Exercise Measurements

Tag	Description	Attributes	Range	Required	Instance
ExerciseMeasurements	This section contains a compilation of all the exercise measurements for the test.	None	---	Yes	Single
ExerciseMeasurements simulatedPatientData	This section contains a compilation of all the exercise measurements for the test with simulated patient data				

ST Criteria

Tag	Description	Attributes	Range	Required	Instance
STCriteria	This section details the ST Criteria that were chosen for the test as well as if and where those criteria were met.	Met=[TRUE, FALSE], this attribute specifies whether or not one of the ST criterias has been met. If the attribute is not specified, it should be interpreted as FALSE (ST Criteria not met).	---	No	Single
STElevationCriteria	This field contains the specified ST Elevation criteria for the test.	Units=[mm, mV], this attribute specifies the units of the specified criteria.	[50..300] mV in 50mV increments	No	Single
STDepressionCriteria	This field contains the specified ST Depression criteria for the test.	Units=[mm, mV], this attribute specifies the units of the specified criteria.	[-50..-300] mV in 50mV increments	No	Single
STSlopeCriteria	This field contains the ST Slope criteria for the test.	None	[horizontal, horizontal and downsloping]	No	Single

CriteriaMetTime	This section contains the time that the first of the ST Criteria was met. If none of the criteria were met, this section will not appear.	Lead=[any valid lead label], this attribute specifies the lead in which the criteria was reached.	---	No	Single
Minute	This field contains the minute that the first of the ST Criteria was met.	None	---	No	Single
Second	This field contains the second that the first of the ST Criteria was met.	None	[0.0..59.9]	No	Single

Maximum Workload

Tag	Description	Attributes	Range	Required	Instance
MaxWorkload	This field contains the value of the maximum workload attained during the test..	Unit=[mets, watts], this attribute specifies the workload units.	---	No	Single

Exercise Phase Time

Tag	Description	Attributes	Range	Required	Instance
ExercisePhaseTime	This section contains the time spent in the exercise phase of the protocol.	None	---	Yes	Single
Minute	This field contains the minute spent in the exercise phase of the protocol.	None	[0..999]	Yes	Single
Second	This field contains the seconds spent in the exercise phase of the protocol.	None	[0..59]	Yes	Single

Maximum Systolic Blood Pressure

Tag	Description	Attributes	Range	Required	Instance
MaxSystolicBP	This field contains the maximum systolic BP value for the test, not the BP value at peak exercise. It contains the maximum systolic BP value found in the trend unless a manually entered maximum BP value is available from the measurement summary dialog.	None	[0..300]	No	Single

Maximum Diastolic Blood Pressure

Tag	Description	Attributes	Range	Required	Instance
MaxDiastolicBP	This field contains the maximum diastolic BP value for the test, not the BP value at peak exercise. It contains the maximum diastolic BP value found in the trend unless a manually entered maximum BP value is available from the measurement summary dialog.	None	[0..300]	No	Single

Maximum Heart Rate

Tag	Description	Attributes	Range	Required	Instance
MaxHeartRate	This field contains the maximum heart rate value for the test, not the HR at peak exercise. It contains the maximum HR value found in the trend unless a manually entered maximum HR value is available from the measurement summary dialog.	None	[0..300]	No	Single

Maximum Predicted Heart Rate

Tag	Description	Attributes	Range	Required	Instance
MaxPredictedHR	This field contains the maximum predicted heart rate value for the test based on the selected method unless modified by the operator.	None	[0..300]	No	Single

Target Heart Rate

Tag	Description	Attributes	Range	Required	Instance
TargetHeartRate	This field contains the target heart rate value for the test based on the percent of the maximum predicted.	Achieved=[yes, no], this attribute specifies whether the target rate was achieved during the test.	[0..300]	No	Single

Percent Achieved of Max Predicted

Tag	Description	Attributes	Range	Required	Instance
PercentAchievedMaxPredicted	This field contains the maximum heart rate as a percent of maximum predicted heart rate.	None	[0..999]	No	Single

Percent of Max Predicted at Peak Exercise

Tag	Description	Attributes	Range	Required	Instance
PeakPercentMaxPredicted	This field contains the heart rate at peak exercise as a percent of maximum predicted heart rate.	None	[0..999]	No	Single

Target Heart Rate Formula

Tag	Description	Attributes	Range	Required	Instance
TargetHRFormula	This field contains the formula used to calculate the target heart rate.	None	---	No	Single

Target Load

Tag	Description	Attributes	Range	Required	Instance
TargetLoad	This field contains the formula used to calculate the target heart rate.	Units=[watts]	[0..400]	No	Single

ST/HR Slope

Tag	Description	Attributes	Range	Required	Instance
STHR Slope	This section contains all of the ST/HR Slope results necessary for interpretation.	None	---	No	Single
STHR Slope Lead	This section contains the ST/HR Slope results for a specific lead.	Lead=[any valid lead label], this specifies the lead to which these results apply. Maxslope=[Yes, No], this specifies whether or not the results for this specific lead are the maximal values. Note that in all instances of this tag, only one may be marked as maxslope=Yes. Skip=[Yes, No], this specifies whether or not the results for this specific lead were included in the search for maximum values. Note that any lead with the attribute skip=Yes cannot also have maxslope=Yes.	---	No	Multiple
Slope	This field contains the slope of the regression line generated for this lead.	None	---	No	Single
Intercept	This field contains the intercept of the regression line generated for this lead.	None	---	No	Single
Correlation	This field contains the correlation of the regression line generated for this lead.	None	---	No	Single
NumPoints	This field contains the number of points used in the fit of the regression line generated.	None	---	No	Single

Resting Statistics

Tag	Description	Attributes	Range	Required	Instance
RestingStats	This section groups together the baseline values saved by the system.	None	---	No	Single
RestHR	This field contains the baseline heart rate of the patient.	None	[0..300]	No	Single
RestSystolicBP	This field contains the baseline systolic BP measurement.	None	[0..300]	No	Single
RestDiastolicBP	This field contains the baseline diastolic BP measurement.	None	[0..300]	No	Single
RestRPP	This field contains the baseline Resting Rate Pressure Product (RPP) calculation.	None	---	No	Single
RestCardiacOutput	This field contains the baseline cardiac output measurement.	None	---	No	Single



**XML Data Export: Exercise Test XML Tags**

RestVES	This field contains the baseline Ventricular Ectopy (VE) count.	None	---	No	Single
RestVO2	This field contains the baseline O2 Uptake measurement in [L/min].	None	---	No	Single
RestVCO2	This field contains the baseline CO2 measurement in [L/min].	None	---	No	Single
RestETCO2	This field contains the baseline End Tidal CO2 measurement in [L/min].	None	---	No	Single
RestTidalVolume	This field contains the baseline tidal volume measurement in [L/min].	None	---	No	Single
RestPE	This field contains the baseline Perceived Exertion (PE) entry. Not that a resting PE value is extremely useful, but it is included in case something later finds it.	None	---	No	Single
RestRespRate	This field contains the baseline respiratory rate measurement.	None	---	No	Single
RestSPO2	This field contains the baseline SPO2 measurement.	None	---	No	Single
RestST	This section contains the baseline ST measurement for all of the available leads.	None	---	No	Single
Measurements	This section contains the baseline ST measurement for the specified lead.	Lead=[any valid lead label]	---	Yes	Multiple
STAmplitude	This field contains the baseline ST amplitude for the lead.	Units=[mm, mV]	---	No	Single
STSlope	This field contains the baseline ST slope for the lead.	Units=[mV/s]	---	No	Single

**Peak Exercise Statistics**

Tag	Description	Attributes	Range	Required	Instance
PeakExStats	This section groups together the values saved by the system at peak exercise.	None	---	No	Single
PeakExHR	This field contains the heart rate of the patient at peak exercise.	None	[0..300]	No	Single
PeakExSystolicBP	This field contains the systolic BP measurement at peak exercise.	None	[0..300]	No	Single
PeakExDiastolicBP	This field contains the diastolic BP measurement at peak exercise.	None	[0..300]	No	Single
PeakExRPP	This field contains the Rate Pressure Product (RPP) calculation at peak exercise.	None	---	No	Single
PeakExMets	This field contains the Mets calculation at peak exercise.	None	---	No	Single
PeakExCardiacOutput	This field contains the cardiac output measurement at peak exercise in [L/min].	None	---	No	Single
PeakExVES	This field contains the Ventricular Ectopy (VE) count at peak exercise.	None	---	No	Single
PeakExVO2	This field contains the O2 Uptake measurement at peak exercise in [L/min].	None	---	No	Single
PeakExVCO2	This field contains the Venous CO2 measurement at peak exercise in [L/min].	None	---	No	Single
PeakExETCO2	This field contains the End Tidal CO2 measurement at peak exercise in [L/min].	None	---	No	Single
PeakExTidalVolume	This field contains the tidal volume measurement at peak exercise in [L/min].	None	---	No	Single
PeakExPE	This field contains the Perceived Exertion (PE) entry at peak exercise.	None	---	No	Single
PeakExRespRate	This field contains the respiration rate measurement at peak exercise.	None	---	No	Single
PeakExSPO2	This field contains the SPO2 measurement at peak exercise.	None	---	No	Single
PeakExST	This section contains the ST measurements for all the available leads at peak exercise.	None	---	No	Single
Measurements	This section contains the ST measurements for the specified lead at peak exercise.	Lead=[any valid lead label]	---	Yes	Multiple
STAmplitude	This field contains the ST amplitude for the lead at peak exercise.	Units=[mm, mV]	---	No	Single
STSlope	This field contains the ST slope for the lead at peak exercise.	Units=[mV/s]	---	No	Single

Statistics at Max ST

Tag	Description	Attributes	Range	Required	Instance
MaxSTStats	The Max ST section shows measurements at the time of maximum ST depression during the test. No Max ST section will appear if the maximum ST value is less than 0.5mm.	None	---	No	Single
MaxSTAmplitude	This field contains the ST amplitude measurement for the specified lead at maximum ST.	Lead=[any valid lead label] Units=[mm, mV]	---	No	Single
MaxSTTime	This section contains the time at which maximum ST was found.	None	---	No	Single
Minute	This field contains the minute at which maximum ST was found.	None	---	No	Single
Second	This field contains the second at which maximum ST was found.	None	[0..59]	No	Single
MaxSTHR	This field contains the heart rate of the patient at maximum ST.	None	---	No	Single
MaxSTSystolicBP	This field contains the systolic BP measurement at maximum ST.	None	---	No	Single
MaxSTDiaStolicBP	This field contains the diastolic BP measurement at maximum ST.	None	---	No	Single
MaxSTRPP	This field contains the Rate Pressure Product (RPP) calculation at maximum ST.	None	---	No	Single
MaxSTMets	This field contains the Mets calculation at maximum ST.	None	---	No	Single
MaxSTCardiacOutput	This field contains the cardiac output measurement at maximum ST in [L/min].	None	---	No	Single
MaxSTVES	This field contains the Ventricular Ectopy (VE) count at maximum ST.	None	---	No	Single
MaxSTVO2	This field contains the O2 Uptake measurement at maximum ST in [L/min].	None	---	No	Single
MaxSTVCO2	This field contains the Venous CO2 measurement at maximum ST in [L/min].	None	---	No	Single
MaxSTETCO2	This field contains the End Tidal CO2 measurement at maximum ST in [L/min].	None	---	No	Single
MaxSTTidalVolume	This field contains the tidal volume measurement at maximum ST in [L/min].	None	---	No	Single
MaxSTPE	This field contains the Perceived Exertion (PE) entry at maximum ST.	None	---	No	Single
MaxSTRespRate	This field contains the respiration rate measurement at maximum ST.	None	---	No	Single
MaxSTSPO2	This field contains the SPO2 measurement at maximum ST.	None	---	No	Single
MaxSTMeasurements	This section contains the ST measurements for all of the available leads at maximum ST.	None	---	No	Single
STAmplitude	This section contains the ST measurements for the specified lead at maximum ST.	Lead=[any valid lead label]	---	Yes	Multiple
STSlope	This field contains the ST amplitude for the lead at maximum ST.	Units=[mm, mV]	---	No	Single
STSlope	This field contains the ST slope for the lead at maximum ST.	Units=[mV/s]	---	No	Single

ST/HR Index

Tag	Description	Attributes	Range	Required	Instance
STHRIndex	This field contains the information about the ST/HR Index calculation.	None	---	No	Single

PWC130

Tag	Description	Attributes	Range	Required	Instance
PWC130	This field contains the physical work capacity (PWC) value for a heart rate of 130 bpm.	None	---	No	Single

PWC150

Tag	Description	Attributes	Range	Required	Instance
PWC150	This field contains the physical work capacity (PWC) value for a heart rate of 150 bpm.	None	---	No	Single

PWC170

Tag	Description	Attributes	Range	Required	Instance
PWC170	This field contains the physical work capacity (PWC) value for a heart rate of 170 bpm.	None	---	No	Single

Arrhythmia Count

Tag	Description	Attributes	Range	Required	Instance
ArrhythmiaCounts	This section contains counts of all the arrhythmias found during the test. For arrhythmia descriptions and criteria, please refer to the stress test system physician's guide.	None	---	No	Single
AnalysisTime	This section contains the amount of time under consideration for the counts that follow.	None	---	No	Single
Minute	This field contains the minutes for the counts that follow.	None	---	No	Single
Second	This field contains the seconds for the counts that follow.	None	[0.0..59.9]	No	Single
ArtifactTime	This section contains the amount of time labeled as artifact.	None	---	No	Single
Minute	This field contains the minutes labeled as artifact.	None	---	No	Single
Second	This field contains the seconds labeled as artifact.	None	[0.0..59.9]	No	Single
QrsCount	This field contains the number of QRS complexes detected during the analysis time.	None	---	No	Single
ArtifactCount	This field contains the number of artifact episodes detected during the analysis time.	None	---	No	Single
VfibCount	This field contains the number of Ventricular Fibrillation (VFB) calls made during the analysis time.	None	---	No	Single
AsystoleCount	This field contains the number of Asystole (ASYS) calls made during the analysis time.	None	---	No	Single
VtachCount	This field contains the number of Ventricular Tachycardia (VTACH) calls made during the analysis.	None	---	No	Single
RunCount	This field contains the number of Run (RUN) calls made during the analysis time.	None	---	No	Single
CoupletCount	This field contains the number of Couplet (CPLT) calls made during the analysis time.	None	---	No	Single
Pause1Count	This field contains the number of 1 Beat Pause (PAU1) calls made during the analysis time.	None	---	No	Single
Pause2Count	This field contains the number of 2 Beat Pause (PAU2) calls made during the analysis time.	None	---	No	Single
EpcvCount	This field contains the number of Epifocal PVC (EPVC) calls made during the analysis time.	None	---	No	Single

**XML Data Export: Exercise Test XML Tags**

VbigCount	This field contains the number of Ventricular Bigeminy (VBIG) calls made during the analysis time.	None	---	No	Single
NfCount	This field contains the number of NF calls made during the analysis time.	None	---	No	Single
MultCount	This field contains the number of MULT calls made during the analysis time.	None	---	No	Single
SvarCount	This field contains the number of SVAR calls made during the analysis time.	None	---	No	Single
PsvtCount	This field contains the number of Paroxysmal Supraventricular Tachycardia (PSVT) calls made during the analysis time.	None	---	No	Single
TachyCount	This field contains the number of Tachycardia (TACHY) calls made during the analysis time.	None	---	No	Single
BradyCount	This field contains the number of Bradycardia (BRADY) calls made during the analysis time.	None	---	No	Single
PerrCount	This field contains the number of Pace Error (PERR) calls made during the analysis time.	None	---	No	Single
EscCount	This field contains the number of Ventricular Escape Beat (ESC) calls made during the analysis time.	None	---	No	Single
VeCount	This field contains the number of Ventricular Ectopy (VE) calls made during the analysis time.	None	---	No	Single
PsvcCount	This field contains the number of Premature Supraventricular Contraction (P SVC) calls made during the analysis time.	None	---	No	Single
AbrCount	This field contains the number of Aberrant (ABR) calls made during the analysis time.	None	---	No	Single
PaceCount	This field contains the number of pace spikes detected during the analysis time.	None	---	No	Single
Pa15Count	This field contains the number of Pa15 calls made during the analysis time.	None	---	No	Single
PauaCount	This field contains the number of Absolute Pause (PAUA) calls made during the analysis time.	None	---	No	Single

**Interpretation**

Tag	Description	Attributes	Range	Required	Instance
Interpretation	This section contains the conclusion and summary statement information for the stress test.	None	---	No	Single

**Arrhythmias During Exercise**

Tag	Description	Attributes	Range	Required	Instance
Arrhythmias	This section contains the Arrhythmias During Exercise	None	---	No	Multiple

**ECG Interpretation Before Exercise**

Tag	Description	Attributes	Range	Required	Instance
Resting ECG	This section contains the ECG Interpretation Before Exercise	None	---	No	Multiple

ECG Interpretation During Exercise

Tag	Description	Attributes	Range	Required	Instance
STChanges	This section contains the ECG Interpretation During Exercise	None	---	No	Multiple

Exercise Summary Comment

Tag	Description	Attributes	Range	Required	Instance
OverallImpression	This section contains the Exercise Summary Comment	None	---	No	Multiple

Chest Pain Statement

Tag	Description	Attributes	Range	Required	Instance
ChestPain	This section contains the Chest Pain Statement	None	---	No	Multiple

Reason For Termination

Tag	Description	Attributes	Range	Required	Instance
ReasonForTermination	This section contains the Reason For Termination	None	---	No	Multiple

Overall Heart Rate Response to Exercise

Tag	Description	Attributes	Range	Required	Instance
HRRresponseToExercise	This section contains the Overall Heart Rate Response to Exercise	None	---	No	Multiple

Overall Blood Pressure Response to Exercise

Tag	Description	Attributes	Range	Required	Instance
BPRresponseToExercise	This section contains the Overall Blood Pressure Response to Exercise	None	---	No	Multiple

Functional Capacity

Tag	Description	Attributes	Range	Required	Instance
FunctionalCapacity	This section contains the Functional Capacity	None	---	No	Multiple

Customer Summary Statement

Tag	Description	Attributes	Range	Required	Instance
CustomSummaryStatement	This field contains any custom summary statement defined by the operator.	Name	---	No	Multiple

Conclusion

Tag	Description	Attributes	Range	Required	Instance
Conclusion	This field contains freetext diagnosis and conclusion information.	None	---	No	Single

Confirmed

Tag	Description	Attributes	Range	Required	Instance
Confirmed	This field contains physican name and date of confirmation	None	---	No	Single

Duke Treadmill Score

Tag	Description	Attributes	Range	Required	Instance
DukeTreadmillScore	This section contains the inputs to the Duke Treadmill Score calculation (excluding patient demographic information) and the results.	None	---	No	Single

Angina Index

Tag	Description	Attributes	Range	Required	Instance
AnginaIndex	This field contains the Angina index for the duke treadmill score	None	[None, Nonlimiting, Limiting]	Yes	Single

Net ST Deviation

Tag	Description	Attributes	Range	Required	Instance
STDeviation	This field contains the maximum net ST deviation as needed for the Duke Treadmill Score calculation. This net ST Deviation is the difference between the ST during exercise and the ST at rest.	Units=[mm, mV]	---	Yes	Single

Duke Treadmill Score Value

Tag	Description	Attributes	Range	Required	Instance
Score	This field contains the resultant score from the Duke Treadmill Score calculation.	None	---	No	Single

Duke Treadmill Scored-Based Risk

Tag	Description	Attributes	Range	Required	Instance
Risk	This field contains the risk as determined by the Duke Treadmill score value.	None	[Low, Moderate, High]	No	Single

Average Mortality

Tag	Description	Attributes	Range	Required	Instance
AvgMortality	This field contains the average mortality as reported by the Duke Treadmill score.	None	---	No	Single

5 Year Average Mortality

Tag	Description	Attributes	Range	Required	Instance
AvgMortality5Yr	This field contains the average 5 year mortality as reported by the Duke Treadmill score.	None	---	No	Single

Risk Factors

Tag	Description	Attributes	Range	Required	Instance
RiskFactors	This section contains the information for calculating the AHA CHD and Stroke risk scores.	None	---	No	Single

Smoker

Tag	Description	Attributes	Range	Required	Instance
Smoker	This field contains whether or not the patient is currently a smoker.	None	[Yes, No]	Yes	Single

Date Quit Smoking

Tag	Description	Attributes	Range	Required	Instance
DateQuitSmoking	This section contains the date on which the patient stopped smoking. Note that this section should not appear if the Smoker field is set to yes.	None	---	No	Single

**XML Data Export: Exercise Test XML Tags**

DayQuitSmoking	This field contains the day of the month that the patient quit smoking.	None	---	Yes	Single
MonthQuitSmoking	This field contains the month that the patient quit smoking.	None	---	Yes	Single
YearQuitSmoking	This field contains the year that the patient quit smoking.	None	---	Yes	Single

**Resting Systolic Blood Pressure**

Tag	Description	Attributes	Range	Required	Instance
RestingSystolicBP	This field contains the resting systolic BP value.	None	[0..300]	Yes	Single

**Diabetes**

Tag	Description	Attributes	Range	Required	Instance
DateQuitSmoking	This field contains whether or not the patient has diabetes.	None	[Yes, No]	Yes	Single

**Left Ventricular Hypertrophy ECG**

Tag	Description	Attributes	Range	Required	Instance
LVHonECG	This field contains whether or not the patient presents symptoms of LVH on the ECG.	None	[Yes, No]	Yes	Single

**AHA Stroke 10 Year Risk**

Tag	Description	Attributes	Range	Required	Instance
AHAStrokeRisk	This section contains the information specific to the AHA 10 Year Stroke Risk Factor calculation.	None	---	No	Single
Atrial Fibrillation	This field contains whether or not the patient has episodes of atrial fibrillation.	None	[Yes, No]	No	Single
HypertensionTherapy	This field contains whether or not the patient is currently undergoing therapy to treat hypertension.	None	[Yes, No]	No	Single
CoronaryInsufficiency	This field contains whether or not the patient has been diagnosed with coronary insufficiency.	None	[Yes, No]	No	Single
Claudication	This field contains whether or not the patient has been diagnosed with claudication.	None	[Yes, No]	No	Single
HistoryOfCongestiveFailure	This field contains whether or not the patient has a history of congestive heart failure (CHF).	None	[Yes, No]	No	Single
MI	This field contains whether or not the patient has been diagnosed as having a myocardial infarct.	None	[Yes, No]	No	Single
HistoryOfAngina	This field contains whether or not the patient has a history of angina (chest pain).	None	[Yes, No]	No	Single
StrokeRisk	This field contains the resultant 10 year stroke risk based on the above factors.	Modified=[Yes, No]	---	No	Single



AHA CHD Risk

Tag	Description	Attributes	Range	Required	Instance
AHACHDRisk	This section contains the information specific to the AHA 5 and 10 Year CHD Risk Factor calculations.	None	---	No	Single
TotalCholesterol	This field contains the patient's total cholesterol level.	None	---	No	Single
HDLCholesterol	This field contains the patient's HDLCholesterol	None	---	No	Single
CHD5YearRisk	This field contains the resultant 5 year CHD risk based on the above factors.	Modified=[Yes, No]	---	No	Single
CHD10YearRisk	This field contains the resultant 10 year CHD risk based on the above factors.	Modified=[Yes, No]	---	No	Single

Protocol

Tag	Description	Attributes	Range	Required	Instance
Protocol	This section contains information on as much of the protocol as was run. This implies that stages of the protocol that were not run will not appear.	None	---	Yes	Single

Device

Tag	Description	Attributes	Range	Required	Instance
Device	This field contains the type of exercise device used during this examination.	None	[Ergometer, Treadmill]	Yes	Single

Phase

Tag	Description	Attributes	Range	Required	Instance
Phase	This section contains information on phases run in the examination.	Ramping=[Yes, No]	---	Yes	Multiple
ProtocolName	This field contains the name of the protocol used during this phase.	None	---	Yes	Single
PhaseName	This field contains the name of the phase.	None	---	Yes	Single
PhaseDuration	This section contains the duration of the phase.	None	---	Yes	Single
Minute	This field contains the minutes spent in the phase.	None	---	Yes	Single
Second	This field contains the seconds spent in the phase.	None	---	Yes	Single
Stage	This section contains information for stages run in the phase.	Idx=[0, 1, ...]	[0..59]	Yes	Single
StageName	This field contains the name of the stage.	None	---	No	Multiple
StageDuration	This section contains the duration of the stage.	None	---	No	Single
Minute	This field contains the minutes spent in the stage.	None	---	No	Single
Second	This field contains the seconds spent in the stage.	None	[0..59]	No	Single

### Trend Information

Tag	Description	Attributes	Range	Required	Instance
TrendData	This section contains data from all trend entries recorded.	None	---	Yes	Single

### Number of Trend Entries

Tag	Description	Attributes	Range	Required	Instance
NumberOfEntries	This field contains the number of trend entries recorded.	None	---	Yes	Single

### Trend Entry

Tag	Description	Attributes	Range	Required	Instance
TrendEntry	This section contains information for a trend entry.	Idx=[0, ..]	---	No	Multiple

### Entry Time

Tag	Description	Attributes	Range	Required	Instance
EntryTime	This section contains the time of the trend entry.	None	---	No	Single
Minute	This field contains the minute of the trend entry.	None	---	No	Single
Second	This field contains the second of the trend entry.				

### Heart Rate

Tag	Description	Attributes	Range	Required	Instance
HeartRate	This field contains the heart rate of the patient at the time of the trend entry.	None	---	No	Single

### Pulse Rate

Tag	Description	Attributes	Range	Required	Instance
PulseRate	This field contains the pulse rate of the patient at the time of the trend entry.	None	---	No	Single

### SPO2

Tag	Description	Attributes	Range	Required	Instance
SPO2	This field contains the SPO2 measurement at the time of the trend entry.	None	---	No	Single

Mets

Tag	Description	Attributes	Range	Required	Instance
Mets	This field contains the Mets calculation at the time of the trend entry.	None	---	No	Single

Rate Pressure Product

Tag	Description	Attributes	Range	Required	Instance
PulseRate	This field contains the RPP calculation at the time of the trend entry.	None	---	No	Single

Perceived Exertion

Tag	Description	Attributes	Range	Required	Instance
PerceivedExertion	This field contains the PE value at the time of the trend entry.	None	---	No	Single

VO2

Tag	Description	Attributes	Range	Required	Instance
VO2	This field contains the O2 Uptake measurement at the time of the trend entry in [L/min].	None	---	No	Single

VCO2

Tag	Description	Attributes	Range	Required	Instance
VCO2	This field contains the Venous CO2 measurement at the time of the trend entry in [L/min].	None	---	No	Single

ETCO2

Tag	Description	Attributes	Range	Required	Instance
ETCO2	This field contains the End Tidal CO2 measurement at the time of the trend entry in [L/min].	None	---	No	Single

Tidal Volume

Tag	Description	Attributes	Range	Required	Instance
TidalVolume	This field contains the tidal volume measurement at the time of the trend entry in [L/min].	None	---	No	Single

Respiration Rate

Tag	Description	Attributes	Range	Required	Instance
RespRate	This field contains the respiration rate measurement at the time of the trend entry.	None	---	No	Single

Cardiac Output

Tag	Description	Attributes	Range	Required	Instance
CardiacOutput	This field contains the cardiac output measurement at the time of the trend entry in [L/min].	None	---	No	Single

VE Count

Tag	Description	Attributes	Range	Required	Instance
VECount	This field contains the number of VE calls at the time of the trend entry.	None	---	No	Single

Pace Count

Tag	Description	Attributes	Range	Required	Instance
PaceCount	This field contains the number of pace spikes detected at the time of the trend entry.	None	---	No	Single

Artifact

Tag	Description	Attributes	Range	Required	Instance
Artifact	This field contains the percentage of artifact at the time of the trend entry.	None	---	No	Single

Custom

Tag	Description	Attributes	Range	Required	Instance
Custom	This field contains a customized label at the time of the trend entry.	Name	---	No	Multiple

Lead Measurements

Tag	Description	Attributes	Range	Required	Instance
Artifact	This section contains the lead measurements at the time of the trend entry.	Lead=[any valid lead label]	---	No	Multiple
JPointAmplitude	This field contains ST amplitude at point J.	Units=[mm, mV]	---	No	Single
STAmplitude20ms	This field contains the ST amplitude at point J+20ms.	Units=[mm, mV]	---	No	Single

**XML Data Export: Exercise Test XML Tags**

STAmplitude	This field contains the ST amplitude at point J+X.	Units=[mm, mV]	---	No	Single
RAmplitude	This field contains the R-Wave amplitude.	Units=[mm, mV]	---	No	Single
R1Amplitude	This field contains the amplitude of the second phase of a biphasic R-Wave.	Units=[mm, mV]	---	No	Single
STSlope	This field contains the ST slope at point J+X.	Units=[mV/s]	---	No	Single
STIntegral	This field contains the ST integral.	None	---	No	Single
STIndex	This field contains the ST index.	None	[normal, abnormal]	No	Single

**Speed**

Tag	Description	Attributes	Range	Required	Instance
Speed	This field contains the treadmill speed at the time of the trend entry.	Units=[km/h, mph]	---	No	Single

**Load**

Tag	Description	Attributes	Range	Required	Instance
Load	This field contains the ergometer load at the time of the trend entry.	Units=[watts]	---	No	Single

**Grade**

Tag	Description	Attributes	Range	Required	Instance
Grade	This field contains the treadmill grade at the time of the trend entry.	Units=[%]	---	No	Single

**Systolic Blood Pressure**

Tag	Description	Attributes	Range	Required	Instance
SystolicBP	This field contains the systolic BP value at the time of the trend entry.	None	[0...300]	No	Single

**Diastolic Blood Pressure**

Tag	Description	Attributes	Range	Required	Instance
DiastolicBP	This field contains the diastolic BP value at the time of the trend entry.	None	[0...300]	No	Single

**Mean Arterial Pressure**

Tag	Description	Attributes	Range	Required	Instance
MeanArterialBP	This field contains the mean arterial BP value at the time of the trend entry.	None	[0...300]	No	Single

Phase Time

Tag	Description	Attributes	Range	Required	Instance
PhaseTime	This section contains the time within the phase of the trend entry.	None	---	No	Single
Minute	This field contains the minute within the phase of the trend entry.	None	---	No	Single
Second	This field contains the second within the phase of the trend entry.	None	[0..59]	No	Single

Phase Name

Tag	Description	Attributes	Range	Required	Instance
PhaseName	This field contains the name of the phase trend entry is taken.	None	---	No	Single

Stage Time

Tag	Description	Attributes	Range	Required	Instance
StageTime	This section contains the time within the stage of the trend entry.	None	---	No	Single
Minute	This field contains the minute within the stage of the trend entry.	None	---	No	Single
Second	This field contains the second within the stage of the trend entry.	None	[0..59]	No	Single

Stage Number

Tag	Description	Attributes	Range	Required	Instance
StageNumber	This field contains the number of the stage in which the trend entry is taken.	None	---	No	Single

Stage Name

Tag	Description	Attributes	Range	Required	Instance
StageName	This field contains the name of the stage in which the trend entry is taken.	None	---	No	Single

Symptom Comment

Tag	Description	Attributes	Range	Required	Instance
Symptom	This field contains any symptom comment entered at the time of the trend entry.	None	---	No	Multiple

Changes Comment

Tag	Description	Attributes	Range	Required	Instance
Changes	This field contains the changes comment entered at the time of the trend entry.	None	---	No	Multiple

TWA Data

Tag	Description	Attributes	Range	Required	Instance
TwaData	Summary tag for the following TWA entries	None	---	No	Single

TWA Valid

Tag	Description	Attributes	Range	Required	Instance
TwaValid	This field contains valid flag for TWA measurement	None	---	Yes	Single

TWA Measurements

Tag	Description	Attributes	Range	Required	Instance
TwaMeasurements	This section contains TWA measurements	Leads=[any valid lead label]	---	Yes	Multiple
TWAValue	TWA value	Units=[ $\mu$ V]	---	Yes	Single
TWANoise	TWA bouse	Units=[ $\mu$ V]	---	Yes	Single

Medians

Tag	Description	Attributes	Range	Required	Instance
MedianData	This section contains data from all median entries.	None	---	Yes	Single

Sample Rate

Tag	Description	Attributes	Range	Required	Instance
SampleRate	This field contains the sample rate of the median entries.	Units=[Hz]	[500]	No	Single

### Resolution

Tag	Description	Attributes	Range	Required	Instance
Resolution	This field contains the resolution of the median entries.	Units=[uVperLsb]	[5..0]	No	Single

### Median

Tag	Description	Attributes	Range	Required	Instance
Median	This section contains information for a median entry.	Idx=[0...]	---	No	Multiple

### Time

Tag	Description	Attributes	Range	Required	Instance
Time	This section contains time within the test of the median entry.	None	---	No	Single
Minute	This field contains the minute within the test of the median entry.	None	---	No	Single
Second	This field contains the second within the test of the median entry.	None	[0..59]	No	Single

### I-Point

Tag	Description	Attributes	Range	Required	Instance
I-Point	This field contains the I-Point position of the median entry.	None	---	No	Single

### J-Point

Tag	Description	Attributes	Range	Required	Instance
J-Point	This field contains the J-Point position of the median entry.	None	---	No	Single

### J+X-Point

Tag	Description	Attributes	Range	Required	Instance
JX-Point	This field contains the J+X -Point position of the median entry.	None	---	No	Single

### P-Point

Tag	Description	Attributes	Range	Required	Instance
P-Point	This field contains P onset point of the median entry.	None	---	No	Single



PE-Point

Tag	Description	Attributes	Range	Required	Instance
PE-Point	This field contains the P offset point position of the median entry.	None	---	No	Single

Q-Point

Tag	Description	Attributes	Range	Required	Instance
Q-Point	This field contains the QRS onset point of the median entry.	None	---	No	Single

T-Point

Tag	Description	Attributes	Range	Required	Instance
T-Point	This field contains the T offset point of the median entry.	None	---	No	Single

User Defined I-Point

Tag	Description	Attributes	Range	Required	Instance
UserI-Point	This field contains the user defined I-Point of the median entry.	None	---	No	Single

User Defined J-Point

Tag	Description	Attributes	Range	Required	Instance
UserJ-Point	This field contains the user defined J-Point of the median entry.	None	---	No	Single

User Defined J+X Point

Tag	Description	Attributes	Range	Required	Instance
UserJ+X-Point	This field contains the user defined J+X-Point of the median entry.	None	---	No	Single

Waveform Data

Tag	Description	Attributes	Range	Required	Instance
WaveformData	This field contains the waveform data starting with the first valid sample.	Lead=[any valid lead label] StartIdx=[Index of first valid sample]	---	No	Multiple

TWA Cycles

Tag	Description	Attributes	Range	Required	Instance
TWACycleData	This section contains the data for all TWA Cycles	None	---	NO	Single

Sample Rate

Tag	Description	Attributes	Range	Required	Instance
SampleRate	This field contains the sample rate for the TWA cycles	Units=[Hz]	[500]	No	Single

Resolution

Tag	Description	Attributes	Range	Required	Instance
Resolution	This field contains the resolution rate for the TWA cycles	Units=[uVperLsb]	[5.0]	No	Single

Cycle

Tag	Description	Attributes	Range	Required	Instance
TWACycle	This section contains the information for one TWA cycle	Idx=[0...]	---	No	Multiple

Time

Tag	Description	Attributes	Range	Required	Instance
Time	This section contains time for the TWA cycle within the test	None	---	No	Single
Minute	This field contains the minute for the TWA cycle within the test	None	---	No	Single
Second	This field contains the second for the TWA cycle within the test	None	[0..59]	No	Single

P-Point

Tag	Description	Attributes	Range	Required	Instance
P-Point	This field contains the P onset point for the TWA cycle	None	---	No	Single

PE-Point

Tag	Description	Attributes	Range	Required	Instance
PE-Point	This field contains the PE offset point position for the TWA cycle	None	---	No	Single

I-Point

Tag	Description	Attributes	Range	Required	Instance
I-Point	This field contains the I-Point position for the TWA cycle	None	---	No	Single

Q-Point

Tag	Description	Attributes	Range	Required	Instance
Q-Point	This field contains the QRS onset point for the TWA cycle	None	---	No	Single

T-Point

Tag	Description	Attributes	Range	Required	Instance
T-Point	This field contains the T offset point for the TWA cycle	None	---	No	Single

J-Point

Tag	Description	Attributes	Range	Required	Instance
J-Point	This field contains the J-Point position for the TWA cycle	None	---	No	Single

TWA Position

Tag	Description	Attributes	Range	Required	Instance
TwaPosition	This field contains the maximum difference in the TWA cycle (even and odd median)	Lead=[any valid lead label]	---	No	Multiple

Waveform Data Complex 1

Tag	Description	Attributes	Range	Required	Instance
WaveformDataComplex1	This field contains the waveform data for complex 1	Lead=[any valid lead label] StartIdx=[Index of first valid sample]	---	No	Multiple

Waveform Data Complex 2

Tag	Description	Attributes	Range	Required	Instance
WaveformDataComplex2	This field contains the waveform data for complex 2	Lead=[any valid lead label] StartIdx=[Index of first valid sample]	---	No	Multiple

Strips

Programmed or User Instigated ECG Strips

Tag	Description	Attributes	Range	Required	Instance
StripData	This section contains data from all ECG strips.	None	---	Yes	Multiple

Sample Rate

Tag	Description	Attributes	Range	Required	Instance
SampleRate	This field contains the sample rate of the ECG strips.	Units=[Hz]	[500]	Yes	Single

Resolution

Tag	Description	Attributes	Range	Required	Instance
Resolution	This field contains the sample rate of the ECG strips.	Units=[uVperLsb]	[5.0]	Yes	Single

Strip

Tag	Description	Attributes	Range	Required	Instance
Strip	This section contains information for an ECG strip.	Idx=[0, ..]	---	No	Multiple
Time	This section contains time within the test of the ECG strip.	None	---	No	Single
Minute	This field contains the minute within the test of the ECG strip.	None	---	No	Single
Second	This field contains the second within the test of the ECG strip.	None	[0..59]	No	Single
WaveformData	This field contains the waveform data of the ECG strip for the given lead.	Lead=[any valid lead label]	---	No	Multiple

Arrhythmia Strips

Tag	Description	Attributes	Range	Required	Instance
ArrhythmiaData	This section contains data from all arrhythmia strips.	None	---	Yes	Multiple

Sample Rate

Tag	Description	Attributes	Range	Required	Instance
SampleRate	This field contains the sample rate of the arrhythmia strips.	Units=[Hz]	[500]	Yes	Single

Resolution

Tag	Description	Attributes	Range	Required	Instance
Resolution	This field contains the sample rate of the arrhythmia strips.	Units=[uVperLsb]	[5.0]	Yes	Single

Strip

Tag	Description	Attributes	Range	Required	Instance
Strip	This section contains information for an arrhythmia strip.	Idx=[0, ..]	---	No	Multiple
Time	This section contains time within the test of the arrhythmia strip.	None	---	No	Single
Minute	This field contains the minute within the test of the arrhythmia strip.	None	---	No	Single
Second	This field contains the second within the test of the arrhythmia strip.	None	[0..59]	No	Single
WaveformData	This field contains the waveform data of the arrhythmia strip for the given lead.	Lead=[any valid lead label]	---	No	Multiple

**Full Disclosure**

Tag	Description	Attributes	Range	Required	Instance
FullDisclosure	This section contains full disclosure data.	None	---	Yes	Single

**Start Time**

Tag	Description	Attributes	Range	Required	Instance
StartTime	This section contains the start time of the full disclosure test.	None	---	No	Single

**Minute**

Tag	Description	Attributes	Range	Required	Instance
Minute	This field contains the minute of the start time of the full disclosure test.	None	---	No	Single

**Second**

Tag	Description	Attributes	Range	Required	Instance
Second	This field contains the second of the start time of the full disclosure test.	None	[0.0..59.9]	No	Single

**Number of Channels**

Tag	Description	Attributes	Range	Required	Instance
NumberOfChannels	This field contains the number of ECG channels in the full disclosure.	None	---	No	Single

**Sample Rate**

Tag	Description	Attributes	Range	Required	Instance
SampleRate	This field contains the sample rate of the full disclosure test.	Units=[Hz]	---	No	Single

**Resolution**

Tag	Description	Attributes	Range	Required	Instance
Resolution	This field contains the resolution of the full disclosure test.	Units=[uVperLsb]	[5.0]	No	Single

**Lead Order**

Tag	Description	Attributes	Range	Required	Instance
LeadOrder	This field lists, in order, the lead names in the full disclosure test.	None	---	No	Single

**Event List**

Tag	Description	Attributes	Range	Required	Instance
EventList	This section contains events while recording the full disclosure.	None	---	No	Single

**Event**

Tag	Description	Attributes	Range	Required	Instance
Event	This section contains the data for an event.	None	---	No	Multiple
Time	This section contains the time of the event from the start of the test.	None	---	No	Single
Minute	This field contains the minute of the event from the start of the test.	None	---	No	Single
Second	This field contains the second of the event from the start of the test.	None	[0.0..59.9]	No	Single
AcquisitionModuleState	This field contains the acquisition module state at the time of the event.	None	[Connect, Disconnect, Unknown]	No	Single
FilterSetting	This field contains the filter setting at the time of the event.	Units=[Hz]	[0, 20, 40, 100, 150, ???]	No	Single
AdsFrff	This field contains whether the ADS/FRF filter is on or off.	None	[On, Off, Unknown]	No	Single

**Full Disclosure Data**

Tag	Description	Attributes	Range	Required	Instance
FullDisclosureData	All full-disclosure samples separated by comma in the following order: Sample-1 Lead-1, Sample-1 Lead-2 ... Sample-1 Lead NumberOfChannels, Sample-2 Lead-1, Sample-2 Lead-2 ... Sample-2 Lead NumberOfChannels, Sample-3 Lead-1, Sample-3 Lead-2 ... Sample-3 Lead NumberOfChannels, .....	None	---	No	Single

## 12SL

Tag	Description	Attributes	Range	Required	Instance
ECG12SL	This section contains data for a 12SL diagnosis.	None	---	Yes	Single

## 12SL Date/Time

Tag	Description	Attributes	Range	Required	Instance
ECG12SLDateTime	This section contains the date and time that the 12SL was acquired.	None	---	Yes	Single

## Hour

Tag	Description	Attributes	Range	Required	Instance
Hour	This field contains the hour that the 12SL was acquired.	None	[0..23]	Yes	Single

## Minute

Tag	Description	Attributes	Range	Required	Instance
Minute	This field contains the minute that the 12SL was acquired.	None	[0..59]	Yes	Single

## Second

Tag	Description	Attributes	Range	Required	Instance
Second	This field contains the second that the 12SL was acquired.	None	[0..59]	Yes	Single

## Day

Tag	Description	Attributes	Range	Required	Instance
Day	This field contains the day of the month that the 12SL was acquired.	None	[1..31]	Yes	Single

## Month

Tag	Description	Attributes	Range	Required	Instance
Month	This field contains the month that the 12SL was acquired.	None	[1..12]	Yes	Single



Year

Tag	Description	Attributes	Range	Required	Instance
Year	This field contains the year that the 12SL was acquired.	None	---	Yes	Single

Diagnosis Version

Tag	Description	Attributes	Range	Required	Instance
DiagnosisVersion	This field contains the version of the 12SL diagnosis program.	None	---	No	Single

Diagnosis Text

Tag	Description	Attributes	Range	Required	Instance
DiagnosisText	This field contains the individual 12SL statements that were generated.	None	---	No	Multiple

Waveform Data

Tag	Description	Attributes	Range	Required	Instance
WaveformData	This field contains all the waveform data for the 12SL for the given lead.	Lead=[any valid lead label]	---	No	Multiple

Measurements

Tag	Description	Attributes	Range	Required	Instance
Measurements	This section contains lead related 12SL measurements.	Lead=[any valid lead label]	---	No	Multiple

Q-Wave Duration

Tag	Description	Attributes	Range	Required	Instance
QDuration	This field contains the Q-Wave duration at the given lead.	None	---	No	Single

R-Wave Duration

Tag	Description	Attributes	Range	Required	Instance
RDuration	This field contains the R-Wave duration at the given lead.	None	---	No	Single

R'-Wave Duration

Tag	Description	Attributes	Range	Required	Instance
R'Duration	This field contains the R'-Wave duration at the given lead.	None	---	No	Single

S-Wave Duration

Tag	Description	Attributes	Range	Required	Instance
SDuration	This field contains the S-Wave duration at the given lead.	None	---	No	Single

R-Wave Peak Duration

Tag	Description	Attributes	Range	Required	Instance
RPeakDuration	This field contains the R-Wave peak duration at the given lead.	None	---	No	Single

QT Duration

Tag	Description	Attributes	Range	Required	Instance
QTDuration	This field contains the QT duration at the given lead.	None	---	No	Single

Maximum P-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
PAmplitude	This field contains the maximum P-Wave amplitude at the given lead.	None	---	No	Single

P-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
PAmplitude	This field contains the P-Wave amplitude at the given lead.	None	---	No	Single

P'-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
P2Amplitude	This field contains the P'-Wave amplitude at the given lead.	None	---	No	Single

Q-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
QAmplitude	This field contains the Q-Wave amplitude at the given lead.	None	---	No	Single

R-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
RAmplitude	This field contains the R-Wave amplitude at the given lead.	None	---	No	Single

R'-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
R1Amplitude	This field contains the R'-Wave amplitude at the given lead.	None	---	No	Single

S-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
SAmplitude	This field contains the S-Wave amplitude at the given lead.	None	---	No	Single

S'-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
S1Amplitude	This field contains the S'-Wave amplitude at the given lead.	None	---	No	Single

J-Point Amplitude

Tag	Description	Attributes	Range	Required	Instance
JAmplitude	This field contains the J-Point amplitude (STJ) at the given lead.	None	---	No	Single

J+X Amplitude

Tag	Description	Attributes	Range	Required	Instance
JXAmplitude	This field contains the J+X-Point amplitude (STM) at the given lead.	None	---	No	Single

JXE Amplitude

Tag	Description	Attributes	Range	Required	Instance
JXEAmplitude	This field contains the JXE-Point amplitude (STE) at the given lead.	None	---	No	Single

Maximum T-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
TAmplitude	This field contains the maximum T-Wave amplitude at the given lead.	None	---	No	Single

T-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
T1Amplitude	This field contains the T-Wave amplitude at the given lead.	None	---	No	Single

T'-Wave Amplitude

Tag	Description	Attributes	Range	Required	Instance
T2Amplitude	This field contains the T'-wave amplitude at the given lead.	None	---	No	Single

Delta Significance

Tag	Description	Attributes	Range	Required	Instance
DeltaSignificance	This field contains the delta significance at the given lead.	None	---	No	Single

J+X Slope

Tag	Description	Attributes	Range	Required	Instance
JXSlope	This field contains the slope at point J+X at the given lead.	None	---	No	Single

**P-Onset**

Tag	Description	Attributes	Range	Required	Instance
POnset	This field contains the P-Onset.	None	---	No	Single

**P-Offset**

Tag	Description	Attributes	Range	Required	Instance
POffset	This field contains the P-Offset.	None	---	No	Single

**QRS-Onset**

Tag	Description	Attributes	Range	Required	Instance
QRSOnset	This field contains the QRS-Onset.	None	---	No	Single

**QRS-Offset**

Tag	Description	Attributes	Range	Required	Instance
QRSOffset	This field contains the QRS-Offset.	None	---	No	Single

**T-Offset**

Tag	Description	Attributes	Range	Required	Instance
TOffset	This field contains the T-Offset.	None	---	No	Single

**PQ Duration**

Tag	Description	Attributes	Range	Required	Instance
PQDuration	This field contains the PQ duration (from P-Onset to QRS-Onset).	None	---	No	Single

**P Duration**

Tag	Description	Attributes	Range	Required	Instance
PDuration	This field contains P duration (from P-Onset to P-Offset).	None	---	No	Single

**QRS Width**

Tag	Description	Attributes	Range	Required	Instance
QRSWidth	This field contains the QRS width (from Q-Onset to S-Offset).	None	---	No	Single

**QT Interval**

Tag	Description	Attributes	Range	Required	Instance
QTInterval	This field contains the QT interval (from Q-Onset to T-Offset).	None	---	No	Single

**Frontal QRS**

Tag	Description	Attributes	Range	Required	Instance
FrontalQRS	This field contains the frontal angle QRS.	None	---	No	Single

**Frontal P-Wave**

Tag	Description	Attributes	Range	Required	Instance
FrontalPWave	This field contains the frontal angle P-Wave.	None	---	No	Single

**Frontal T-Wave**

Tag	Description	Attributes	Range	Required	Instance
FrontalTWave	This field contains the frontal angle T-Wave.	None	---	No	Single

**Number of Good Beats**

Tag	Description	Attributes	Range	Required	Instance
NumGoodBeats	This field contains the number of beats with good correlation.	None	---	No	Single

**Average R-R Interval**

Tag	Description	Attributes	Range	Required	Instance
AvgRRInterval	This field contains the average RR interval of beats with good correlation.	None	---	No	Single

**Alternate QT Interval**

Tag	Description	Attributes	Range	Required	Instance
AltQTInterval	This field contains the QT interval according to Hegglin-Holzmann or Bazett.	None	---	No	Single

**JxJs Distance**

Tag	Description	Attributes	Range	Required	Instance
JxJsDistance	This field contains the distance $x =  x_j - x_s $ ( $x_j$ = measurement point of ST segment).	None	---	No	Single

**Sokolov LVH Index**

Tag	Description	Attributes	Range	Required	Instance
SokolovLVHIndex	This field contains the Sokolov-Lyon index for left-ventricular hypertrophy (max. of S(V1) + R(V5) or S(V1) + R(V6)).	None	---	No	Single

**Heart Rate**

Tag	Description	Attributes	Range	Required	Instance
HeartRate	This field contains the heart rate of all beats [1/min].	None	---	No	Single

**QT Dispersion**

Tag	Description	Attributes	Range	Required	Instance
QTDispersion	This field contains the dispersion of repolarization.	None	---	No	Single

**Acronyms**

Tag	Description	Attributes	Range	Required	Instance
Acronyms	This field contains the acronyms.	None	---	No	Single

**Median**

Tag	Description	Attributes	Range	Required	Instance
Median	This section contains data for the 12SL average beat.	None	---	No	Single

**P-Wave Onset**

Tag	Description	Attributes	Range	Required	Instance
POnset	This field contains the P-Wave onset for the average beat.	None	---	No	Single

**P-Wave Offset**

Tag	Description	Attributes	Range	Required	Instance
POffset	This field contains the P-Wave offset for the average beat.	None	---	No	Single

**QRS Onset**

Tag	Description	Attributes	Range	Required	Instance
QRSOnset	This field contains the QRS onset for the average beat.	None	---	No	Single

**QRS Offset**

Tag	Description	Attributes	Range	Required	Instance
QRSOffset	This field contains the QRS offset for the average beat.	None	---	No	Single

**T-Wave Offset**

Tag	Description	Attributes	Range	Required	Instance
TOffset	This field contains the T-Wave offset for the average beat.	None	---	No	Single

**Waveform Data**

Tag	Description	Attributes	Range	Required	Instance
WaveformData	This field contains all the waveform data for the average beat for the given lead.	Lead=[any valid lead label] Offset=[Offset for average beat]	---	No	Multiple



## Standard Test Information - General XML Tags

For your notes

The modalities *Resting ECG*, *Ambulatory Blood Pressure Measurement* and *Spirometry* have an identical group of tags for the *Standard Test Information* at the beginning of their individual tag record. Inside this group all tags exist even if they are unsubstantial. Tags with the instance Multiple are issued once.

**Observation Type**

Tag	Description	Attributes	Range	Required	Instance
ObservationType	This field specifies the observation type to which the following patient record corresponds.	None	[RestECG, AmbulatoryBloodP ressure, Spirometry]	Yes	Single

**Observation Date/Time**

Tag	Description	Attributes	Range	Required	Instance
ObservationDateTime	This section contains the date and time the test was entered in the database	None	---	Yes	Single

Hour

Tag	Description	Attributes	Range	Required	Instance
Hour	This field contains the hour of the time the test was entered in the database	None	[0..23]	Yes	Single

Minute

Tag	Description	Attributes	Range	Required	Instance
Minute	This field contains the minute of the time the test was entered in the database	None	[0..59]	Yes	Single

Second

Tag	Description	Attributes	Range	Required	Instance
Second	This field contains the second of the time the test was entered in the database	None	[0..59]	Yes	Single

Day

Tag	Description	Attributes	Range	Required	Instance
Day	This field contains the day of the month the test was entered in the database	None	[1..31]	Yes	Single

Month

Tag	Description	Attributes	Range	Required	Instance
Month	This field contains the month the test was entered in the database	None	[1..12]	Yes	Single

Year

Tag	Description	Attributes	Range	Required	Instance
Year	This field contains the year the test was entered in the database	None	[≤2038] <sup>1</sup>		

Clinical Information

Tag	Description	Attributes	Range	Required	Instance
ClinicalInfo	This section contains information about the study, who administered the test, and other relevant test info.	None	---	Yes	Single

Reason for Test

Tag	Description	Attributes	Range	Required	Instance
ReasonForStudy	This field contains the text describing the reason for performing the test.	None	---	No	Single

Technician

Tag	Description	Attributes	Range	Required	Instance
Technician	This section contains the information about the technician performing the test.	None	---	No	Single
FamilyName	This field contains the last name (surname) of the technician performing the test.	None	---	No	Single
GivenName	This field contains the first name (given name) of the technician performing the test.	None	---	Yes	Single
PersonID	This field contains the ID-number of the technician performing the test.	None	---	No	Single

Observation Comment

Tag	Description	Attributes	Range	Required	Instance
ObservationComment	This field contains the text describing the test type..	None	---	No	Single

Device Information

Tag	Description	Attributes	Range	Required	Instance
DeviceInfo	This section contains the device specific information for the test.	None	---	Yes	Single
Desc	This field contains the product name of the device on which the test was performed.	None	---	Yes	Single
SoftwareVer	This field contains the version of the application with which the test was performed.	None	---	Yes	Single
AnalysisVer	This field contains for example the version information a Rest-ECG was analyzed ( HEART 5.3 or 12SLV19 )	None	---	Yes	Single

Patient Visit

Tag	Description	Attributes	Range	Required	Instance
PatientVisit	This section contains fields to describe the patient visit.	None	---	No	Single

Patient Class

Tag	Description	Attributes	Range	Required	Instance
PatientClass	This field specifies the patient classification.	None	[O]	No	Single

Assigned Location

Tag	Description	Attributes	Range	Required	Instance
AssignedPatientLocation	This section specifies the assigned location for the patient.	None	---	No	Single
Facility	This field specifies the facility where the test was taken.	None	---	No	Single
LocationNumber	This field specifies the location number where the test was taken	None	---	No	Single
LocationName	This field specifies the location name where the test was taken	None	---	No	Single

Patient Room

Tag	Description	Attributes	Range	Required	Instance
PatientRoom	This field specifies the room for the patient.	None	---	No	Single

Admission Type

Tag	Description	Attributes	Range	Required	Instance
AdmissionType	This field specifies the admission type for the facility.	None	[ROUT]	No	Single

Ordering Provider

Tag	Description	Attributes	Range	Required	Instance
OrderingProvider	This section describes the physician who ordered the test.	None	---	Yes	Single
FamilyName	This field contains the last name (surname) of the ordering physician.	None	---	Yes	Single
GivenName	This field contains the first name (given name) of the ordering physician.	None	---	Yes	Single
PersonID	This field contains the ID-number of the ordering physician.	None	---	Yes	Single

Attending Doctor

Tag	Description	Attributes	Range	Required	Instance
AttendingDoctor	This section lists the attending physician for the test.	None	---	Yes	Single
FamilyName	This field contains the last name (surname) of the attending physician.	None	---	Yes	Single
GivenName	This field contains the first name (given name) of the attending physician.	None	---	Yes	Single
PersonID	This field contains the ID-number of the attending physician.	None	---	Yes	Single

Referring Doctor

Tag	Description	Attributes	Range	Required	Instance
ReferringDoctor	This section lists the referring physician for the test.	None	---	Yes	Single
FamilyName	This field contains the last name (surname) of the referring physician.	None	---	Yes	Single
GivenName	This field contains the first name (given name) of the referring physician.	None	---	Yes	Single
PersonID	This field contains the ID-number of the referring physician.	None	---	Yes	Single

Servicing Facility

Tag	Description	Attributes	Range	Required	Instance
ServicingFacility	This section contains information about the servicing facility which is providing the test.	None	---	Yes	Single
Name	This field contains the name of the institution which is providing the test.	None	---	Yes	Single
Address	This section contains the address of the servicing facility.	None	---	Yes	Single
Street1	This field contains the street of the servicing facility.	None	---	Yes	Single
City	This field contains the city of the servicing facility.	None	---	Yes	Single

Systolic Blood Pressure

Tag	Description	Attributes	Range	Required	Instance
SysBP	This field contains the systolic blood pressure	Units="mmHG"	[0...300]	No	Single

Diastolic Blood Pressure

Tag	Description	Attributes	Range	Required	Instance
DiaBP	This field contains the systolic blood pressure	Units="mmHG"	[0...300]	No	Single

Chestpain

Tag	Description	Attributes	Range	Required	Instance
ChestPain	Chest pain status: unknown, no, existent, chief complaint	None	[Unknown, Not Present, Secondary Complaint, Chief Complaint]	No	Single

Medical History

Tag	Description	Attributes	Range	Required	Instance
MedicalHistory	This section describes the medical history of the patient	None	---	Yes	Single
MedicalHistoryText	This field contains the medical history text	None	---	Yes	Single

Order Number

Tag	Description	Attributes	Range	Required	Instance
OrderNumber	This field contains the order number	None	---	Yes	Single

Medications

Tag	Description	Attributes	Range	Required	Instance
Medications	This section contains the medication	None	---	Yes	Single
Drug	This field contains the medication name	None	---	Yes	Multiple
Dosage	This field contains the dosage	None	---	Yes	Multiple

Extra Questions

Tag	Description	Attributes	Range	Required	Instance
ExtraQuestions	This section contains the 2 extra-questions for the examination	None	---	Yes	Single
Label	This field contains the label of the extra-question	Type=[Text, Boolean, Number]	---	Yes	Multiple
Content	This field contains the content of the extra-question	None	---	Yes	Multiple

Patient Information

Tag	Description	Attributes	Range	Required	Instance
PatientInfo	This section contains patient demographic information.	None	---	Yes	Single

Patient ID

Tag	Description	Attributes	Range	Required	Instance
PID	This field contains the patient ID.	None	---	Yes	Single

Name

Tag	Description	Attributes	Range	Required	Instance
Name	This section contains the name of the patient for which this test applies.	None	---	Yes	Single
FamilyName	This field contains the last name (surname) of the patient for which this test applies.	None	---	Yes	Single
GivenName	This field contains the given name of the patient for which this test applies.	None	---	Yes	Single

Age

Tag	Description	Attributes	Range	Required	Instance
Age	This field contains the age of the patient.	Units=[Years]	---	No	Single



Birth Date/Time

Tag	Description	Attributes	Range	Required	Instance
BirthDate/Time	This section contains the date of birth of the patient. Note that it is not valid for the date of birth to evaluate to a date earlier than the current date.	None	---	No	Single
Day	This field contains the day of the month on which the patient was born.	None	[1..31]	No	Single
Month	This field contains the month in which the patient was born.	None	[1..12]	No	Single
Year	This field contains the 4-digit year in which the patient was born.	None	[≤2038] <sup>1</sup>	No	Single

Gender

Tag	Description	Attributes	Range	Required	Instance
Gender	This field contains the patient gender.	None	["", Male, Female]	Yes	Single

Race

Tag	Description	Attributes	Range	Required	Instance
Race	This field contains the race of the patient.	None	[Caucasian, Black, Asian, Oriental, Hispania, Am Indian, Eskimo, Hawaiian, Pac islander, Mongolian, Indian, unknown] <b>NOTE</b> Refer to chapter „Race Information“ for more information	No	Single

Height

Tag	Description	Attributes	Range	Required	Instance
Height	This field contains the height of the patient.	Units=[cm, in]	---	No	Single

Weight

Tag	Description	Attributes	Range	Required	Instance
Weight	This field contains the weight of the patient.	Units=[kg, lbs]	---	No	Single

Pacemaker

Tag	Description	Attributes	Range	Required	Instance
PaceMaker	This field indicates whether the patient has a pacemaker.	None	[yes, no]	No	Single

## Resting ECG XML Tags

For your notes

Tag	Description	Attributes	Range	Required	Instance
CardiologyXML	This field indicates the start of a complete examination data record.	None	---	Yes	Single

**Standard Test Information**

See chapter *Standard Test Information* – *General XML Tags*.

**Filter Setting**

Tag	Description	Attributes	Range	Required	Instance
FilterSetting	This section describes the filters, used for this examination	None	---	Yes	Single

Cubic Spline

Tag	Description	Attributes	Range	Required	Instance
CubicSpline	This field describes if the Cubic-Spline filter used	None	[Yes, No]	Yes	Single

Filter 50 Hz

Tag	Description	Attributes	Range	Required	Instance
Filter50Hz	This field describes if the 50Hz filter used	None	[Yes, No]	Yes	Single

Filter 60 Hz

Tag	Description	Attributes	Range	Required	Instance
Filter60Hz	This field describes if the 60Hz filter used	None	[Yes, No]	Yes	Single

Low Pass

Tag	Description	Attributes	Range	Required	Instance
LowPass	This field describes which low pass filter was used	Units=[Hz]	[20,40,100,150]	Yes	Single

High Pass

Tag	Description	Attributes	Range	Required	Instance
HighPass	This field describes which high pass filter was used	Units=[Hz]	[0.01, 0.05]	Yes	Single

**Simulated Patient Data**

Tag	Description	Attributes	Range	Required	Instance
SimulatedPatientData	This field shows if simulated patient data is used for this examination.	None	[Yes]	No	Single

**Device-Type**

Tag	Description	Attributes	Range	Required	Instance
Device-Type	This field shows which ECG front end was used for this examination.	None	-1: unknown 0: AM114 1: Corina 2: AM114USB	No	Single

**Interpretation**

Tag	Description	Attributes	Range	Required	Instance
Interpretation	This section contains ACI-TIPI / 12SL / HEART - Diagnosis / Conclusion	None	---	Yes	Single

**ACI-TIPI**

Tag	Description	Attributes	Range	Required	Instance
ACI-TIPI	This section contains the ACI-TIPI diagnosis	None	---	No	Single
DiagnosisText	This field contains one ACI-TIPI text line	None	---	No	Multiple

**Diagnosis**

Tag	Description	Attributes	Range	Required	Instance
Diagnosis	This section contains the 12SL / HEART diagnosis	None	---	No	Single
DiagnosisText	This field contains one diagnosis text line	None	---	No	Multiple

**Conclusion**

Tag	Description	Attributes	Range	Required	Instance
Conclusion	This section contains the conclusion made by the doctor / technician	None	---	No	Single
ConclusionText	This field contains one conclusion text line.	None	---	No	Multiple

## Confirmed

Tag	Description	Attributes	Range	Required	Instance
Confirmed	This field contains the confirmation text.	None	---	No	Single

## Resting ECG Measurements

DURATION\* = short value in millisecond, not calculated values: -32768 or empty, uncertain values are in negative  
 AMPLITUDE\* = short value in microvolt, not calculated values: -32768 or empty  
 NORMAL\* = short, not calculated values: -32768 or empty  
 DURATION\_NEG\* = short value in millisecond, not calculated values: -32768 or empty, uncertain values are in parenthesis

Tag	Description	Attributes	Range	Required	Instance
RestingECGMeasurements	This section contains the global measurement results, the measurement matrix, medians...	None	---	No	Single

## Diagnosis Version

Tag	Description	Attributes	Range	Required	Instance
DiagnosisVersion	This field contains the version of the diagnosis-program used for this examination	None	---	Yes	Single

## Ventricular Rate

Tag	Description	Attributes	Range	Required	Instance
VentricularRate	This field contains the heart rate for the acquired 10 seconds ecg	Units=[BPM]	[0..350]	Yes	Single

## PQ Interval

Tag	Description	Attributes	Range	Required	Instance
PQInterval	PQ duration (from P-onset to QRS-onset)	Units=[ms]	DURATION*	Yes	Single

## P Duration

Tag	Description	Attributes	Range	Required	Instance
PDuration	P-duration (from P-onset to P-offset)	Units=[ms]	DURATION*	Yes	Single

## QRS Duration

Tag	Description	Attributes	Range	Required	Instance
QRSDuration	QRS width (from Q-onset to S-offset)	Units=[ms]	DURATION*	Yes	Single

## QT Interval

Tag	Description	Attributes	Range	Required	Instance
QTInterval	QT interval (from Q-onset to T-offset)	Units=[ms]	DURATION*	Yes	Single

## QTC Interval

Tag	Description	Attributes	Range	Required	Instance
QTCInterval	QT interval according to Bazett	Units=[ms]	DURATION*	Yes	Single

## RR Interval

Tag	Description	Attributes	Range	Required	Instance
RRInterval	average interval of beats with good correlation	Units=[ms]	DURATION*	Yes	Single

## PP Interval

Tag	Description	Attributes	Range	Required	Instance
PPInterval	average PP interval of typical P	Units=[ms]	DURATION*	Yes	Single

## Sokolov LVH Index

Tag	Description	Attributes	Range	Required	Instance
SokolovLVHIndex	Sokolov-Lyon index for left ventricular hypertrophy max. of $S(V1) + R(V5)$ or $S(V1) + R(V6)$	Units=[mV]	AMPLITUDE*	Yes	Single

## P Axis

Tag	Description	Attributes	Range	Required	Instance
PAxis	Frontal angle P-wave	Units=[degrees]	NORMAL*	Yes	Single



## R Axis

Tag	Description	Attributes	Range	Required	Instance
RAxis	Frontal angle QRS	Units=[degrees]	NORMAL*	Yes	Single

## T Axis

Tag	Description	Attributes	Range	Required	Instance
TAxis	Frontal angle T-wave	Units=[degrees]	NORMAL*	Yes	Single

## QT Dispersion

Tag	Description	Attributes	Range	Required	Instance
QTDispersion	Dispersion of repolarisation	Units=[ms]	DURATION*	Yes	Single

## QT Dispersion Bazett

Tag	Description	Attributes	Range	Required	Instance
QTDispersionBazett	Dispersion of repolarisation according to Bazett	Units=[ms]	DURATION*	Yes	Single

## Number of QRS

Tag	Description	Attributes	Range	Required	Instance
QRSNum	Number of beats with good correlation	None	NORMAL*	Yes	Single

Measurement Table

Tag	Description	Attributes	Range	Required	Instance
MeasurementTable	This section contains the lead-related measurement data	Creation = [12SL, HEART]	---	Yes	Single
LeadOrder	This field contains all leads separated by comma	None	---	Yes	Single
QDuration	Q-duration, of all leads separated by comma	Units=[ms]	DURATION*	Yes	Single
RDuration	R-duration, of all leads separated by comma	Units=[ms]	DURATION*	Yes	Single
SDuration	S-duration, of all leads separated by comma	Units=[ms]	DURATION*	Yes	Single
RpDuration	Rp-duration, of all leads separated by comma	Units=[ms]	DURATION*	Yes	Single
QTDuration	QT-duration, of all leads separated by comma	Units=[ms]	DURATION*	No	Single
PAmplitude	P-amplitude, of all leads separated by comma	Units=[uV]	AMPLITUDE*	Yes	Single
QAmplitude	Q-amplitude, of all leads separated by comma	Units=[uV]	AMPLITUDE*	Yes	Single
RAmplitude	R-amplitude, of all leads separated by comma	Units=[uV]	AMPLITUDE*	Yes	Single
SAmplitude	S-amplitude, of all leads separated by comma	Units=[uV]	AMPLITUDE*	Yes	Single
R1Amplitude	R'-amplitude, of all leads separated by comma	Units=[uV]	AMPLITUDE*	Yes	Single
S1Amplitude	S'-amplitude, of all leads separated by comma	Units=[uV]	AMPLITUDE*	Yes	Single
JAmplitude	J-amplitude (QRS offset) (ST-J), of all leads separated by comma	Units=[uV]	AMPLITUDE*	Yes	Single
JXAmplitude	Amplitude at point J+x (STM), of all leads separated by comma	Units=[uV]	AMPLITUDE*	Yes	Single
TAmplitude	T-amplitude, of all leads separated by comma	Units=[uV]	AMPLITUDE*	Yes	Single
JXSlope	Slope at point J+x, of all leads separated by comma	Units=[uV/s]	AMPLITUDE*	Yes	Single
POnset	P-Onset, of all leads separated by comma (HEART)	Units=[ms]	DURATION_NEG*	No	Single
POffset	P-Offset, of all leads separated by comma (HEART)	Units=[ms]	DURATION_NEG*	No	Single
QOnset	Q-Onset, of all leads separated by comma (HEART)	Units=[ms]	DURATION_NEG*	No	Single
QOffset	Q-Offset, of all leads separated by comma (HEART)	Units=[ms]	DURATION_NEG*	No	Single
TOffset	T-Offset, of all leads separated by comma (HEART)	Units=[ms]	DURATION_NEG*	No	Single
R1Duration	R'-Duration, of all leads separated by comma (12SL)	Units=[ms]	DURATION_NEG*	No	Single
P1Amplitude	P'-Amplitude, of all leads separated by comma (12SL)	Units=[uV]	AMPLITUDE*	No	Single
JXEAmplitude	STE-Amplitude, of all leads separated by comma (12SL)	Units=[uV]	AMPLITUDE*	No	Single
T1Amplitude	T'-Amplitude, of all leads separated by comma (12SL)	Units=[uV]	AMPLITUDE*	No	Single

Q Onset

Tag	Description	Attributes	Range	Required	Instance
QOnset	Q-Onset, lead-unrelated	Units=[ms]	DURATION_NEG*	Yes	Single

Q Offset

Tag	Description	Attributes	Range	Required	Instance
QOffset	Q-Offset, lead-unrelated	Units=[ms]	DURATION_NEG*	Yes	Single

P Onset

Tag	Description	Attributes	Range	Required	Instance
POnset	P-Onset, lead-unrelated	Units=[ms]	DURATION_NEG*	Yes	Single

P Offset

Tag	Description	Attributes	Range	Required	Instance
POffset	P-Offset, lead-unrelated	Units=[ms]	DURATION_NEG*	Yes	Single

T Offset

Tag	Description	Attributes	Range	Required	Instance
TOffset	T-Offset, lead-unrelated	Units=[ms]	DURATION_NEG*	Yes	Single

Median Samples

Tag	Description	Attributes	Range	Required	Instance
MedianSamples	This section describes the medians	None	---	No	Single
NumberOfLeads	Number of acquired leads	None	[12, 15]	Yes	Single
SampleRate	Number of samples per second	Units=[Hz]	[500]	Yes	Single
ChannelSampleCountTotal	Number of samples of one lead	None	[600]	Yes	Single
Resolution	One sample increment meets to this number of microvolts	Units=[uVperLsb]	[5]	Yes	Single
FirstValid	Samples less than first valid are ignored for displaying and printing	Units=[Sample]	[0...599]	Yes	Single
LastValid	Samples greater than last valid are ignored for displaying and printing	Units=[Sample]	[0...599]	Yes	Single
WaveformData	Samples for all leads ( see ChannelSampleCountTotal ), separated by comma label]	Lead=[any valid lead label]	[-32768..32767]	Yes	Multiple

**Vector Loops**

Tag	Description	Attributes	Range	Required	Instance
VectorLoops	This section describes the data for the vector loops	Creation=[Frank, Inverse Dower]	---	No	Single

**Resolution**

Tag	Description	Attributes	Range	Required	Instance
Resolution	One sample increment meets to this number of microvolts	Units=[uVperLsb]	[5]	Yes	Single

**Total Count of Channel Samples**

Tag	Description	Attributes	Range	Required	Instance
ChannelSampleCountTotal	Number of samples of one lead	None	[0...600]	Yes	Single

**Q Onset**

Tag	Description	Attributes	Range	Required	Instance
QOnset	Sample number of Q-Onset	Units=[samples]	[0..599]	Yes	Single

**Q Offset**

Tag	Description	Attributes	Range	Required	Instance
QOffset	Sample number of Q-Offset	Units=[samples]	[0..599]	Yes	Single

**P Onset**

Tag	Description	Attributes	Range	Required	Instance
POnset	Sample number of P-Onset	Units=[samples]	[0..599]	Yes	Single

**P Offset**

Tag	Description	Attributes	Range	Required	Instance
POffset	Sample number of P-Offset	Units=[samples]	[0..599]	Yes	Single

T Offset

Tag	Description	Attributes	Range	Required	Instance
TOffset	Sample number of T-Offset	Units=[samples]	[0..599]	Yes	Single

Frontal

Tag	Description	Attributes	Range	Required	Instance
Frontal	This field contains the samples for the leads X and -Y, separated by comma	Lead=[X, -Y]	[-32768..32767]	Yes	Multiple

Horizontal

Tag	Description	Attributes	Range	Required	Instance
Horizontal	This field contains the samples for the leads X and Z, separated by comma	Lead=[X, Z]	[-32768..32767]	Yes	Multiple

Sagittal

Tag	Description	Attributes	Range	Required	Instance
Sagittal	This field contains the samples for the leads -Z and -Y, separated by comma	Lead=[-Z, -Y]	[-32768..32767]	Yes	Multiple

Strip Data

Tag	Description	Attributes	Range	Required	Instance
StripData	This section contains the information of the 10 seconds ecg for all acquired leads	None	---	Yes	Single

Number of Leads

Tag	Description	Attributes	Range	Required	Instance
NumberOfLeads	Number of acquired leads	None	[12,15]	Yes	Single

Sample Rate

Tag	Description	Attributes	Range	Required	Instance
SampleRate	Number of samples per second	Units=[Hz]	[500]	Yes	Single

Total Count of Channel Samples

Tag	Description	Attributes	Range	Required	Instance
ChannelSampleCountTotal	Number of samples of one lead (SampleRate * 10 seconds)	None	---	Yes	Single

Resolution

Tag	Description	Attributes	Range	Required	Instance
Resolution	One sample increment meets to this number of microvolts	Units=[uVperLsb]	[5.0]	Yes	Single

Waveform Data

Tag	Description	Lead=	Range	Required	Instance
WaveformData	Samples for all leads ( see ChannelSampleCountTotal ), separated by comma	Lead=[any valid lead label]	[-32768..32767]	Yes	Multiple

Arrhythmia Results

Tag	Description	Attributes	Range	Required	Instance
ArrhythmiaResults	This section contains the arrhythmia results of the 10 seconds ecg	None	---	No	Single
Time	time when the event was detected	Units=[ms/10]	[0..1000]	Yes	Multiple
BeatClass	the beat class of the event	Event="event name"	[ " " ; "dominant", "subdominant" ]	Yes	Multiple

Full Disclosure

Tag	Description	Attributes	Range	Required	Instance
FullDisclosure	This section contains the full disclosure data	None	---	No	Single

Number of Channels

Tag	Description	Attributes	Range	Required	Instance
NumberOfChannels	This field contains the number of acquired leads	None	---	Yes	Single

Sample Rate

Tag	Description	Attributes	Range	Required	Instance
SampleRate	This field contains the number of samples per second	Units=[Hz]	[100, 200, 500]	Yes	Single

Resolution

Tag	Description	Attributes	Range	Required	Instance
Resolution	One sample increment meets to this number of microvolts	Units=[uVperLsb]	[5.0]	Yes	Single

Lead Order

Tag	Description	Attributes	Range	Required	Instance
LeadOrder	This field contains all leads separated by comma	None	---	Yes	Single

Full Disclosure Data

Tag	Description	Attributes	Range	Required	Instance
FullDisclosureData	All full-disclosure samples separated by comma in the following order: Sample-1 Lead-1, Sample-1 Lead-2 ... Sample-1 Lead NumberOfChannels, Sample-2 Lead-1, Sample-2 Lead-2 ... Sample-2 Lead NumberOfChannels, Sample-3 Lead-1, Sample-3 Lead-2 ... Sample-3 Lead NumberOfChannels, .....	None	---	Yes	Single
SampleCount	This field contains the number of samples that the tag FullDisclosureData contains	None	---	Yes	Single

Event List

Tag	Description	Attributes	Range	Required	Instance
EventList	This section contains the events, detected while full disclosure was active	None	---	Yes	Single
Event	This field contains the event name	None	---	No	Multiple
Time	This section contains the time of the event	None	---	No	Multiple
Minute	This field contains the minute when the event occurred	None	---	Yes	Single
Second	This field contains the second when the event occurred	None	---	Yes	Single

For your notes



## Ambulatory Blood Pressure Measurement XML Tags

For your notes

Tag	Description	Attributes	Range	Required	Instance
CardiologyXML	This field indicates the start of a complete examination data record.	None	---	Yes	Single

**Standard Test Information**

See chapter *Standard Test Information – General XML Tags*.

**Simulated Patient Data**

Tag	Description	Attributes	Range	Required	Instance
SimulatedPatientData	This field shows if simulated patient data is used for this examination.	None	[Yes, No]	No	Single

**Device Type**

Tag	Description	Attributes	Range	Required	Instance
Device-Type	This field contains the Firmware-Version of connected device.	None	---	No	Single

**Interpretation**

Tag	Description	Attributes	Range	Required	Instance
Interpretation	This section contains information about the interpretation.	None	---	Yes	Single

Conclusion

Tag	Description	Attributes	Range	Required	Instance
Conclusion	This section contains the conclusion.	None	---	Yes	Single
ConclusionText	This field contains the conclusion text.	None	---	No	Multiple

Confirmed

Tag	Description	Attributes	Range	Required	Instance
Confirmed	This field contains the confirmation text.	None	---	No	Single

**ABP General**

Tag	Description	Attributes	Range	Required	Instance
ABPGeneral	This section contains ABP general information.	None	---	Yes	Single

**Oscillatory Measurement**

Tag	Description	Attributes	Range	Required	Instance
OscillatoryMeasurement	This field contains the measurement mode, oscillatory or auscultatory.	None	[Yes, No]	Yes	Single

**Statistic Times from Acquisition Device**

Tag	Description	Attributes	Range	Required	Instance
StatTimesFromAcqDevice	This field shows if the statistic times are taken from the acquisition device.	None	[Yes, No]	Yes	Single

**ABP Statistics**

Tag	Description	Attributes	Range	Required	Instance
ABPStatisticSummary ABPStatisticDay ABPStatisticNight ABPStatisticWakeUp	This section contains ABP statistics summary, ABP statistics of day time, ABP statistics of night time, ABP statistics of wakeup time: Each of this sections contain identical fields. If data is not available for a specific section, this section is not existent.	None	---	No	Single

**Start Time**

Tag	Description	Attributes	Range	Required	Instance
TimeFrom	This section contains the start time of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the start time of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the start time of the appropriate statistic phase.	None	[0..59]	Yes	Single

**End Time**

Tag	Description	Attributes	Range	Required	Instance
TimeTo	This section contains the end time of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the end time of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the end time of the appropriate statistic phase.	None	[0..59]	Yes	Single

## Total Number of Measurements

Tag	Description	Attributes	Range	Required	Instance
TotalMeas	This field contains the total number of measurements of the appropriate statistic phase.	None	[0 to max. number]	Yes	Single

## Number of valid Measurements

Tag	Description	Attributes	Range	Required	Instance
ValidMeas	This field contains the number of valid measurements of the appropriate statistic phase.	None	[0 to max. number]	Yes	Single

## Percentage of Systolic Values above Limit

Tag	Description	Attributes	Range	Required	Instance
SysAboveLimit	This field contains the percentage of systolic values that are above the limit of the appropriate statistic phase.	Units=[%]	---	Yes	Single

## Percentage of Diastolic Values above Limit

Tag	Description	Attributes	Range	Required	Instance
DiaAboveLimit	This field contains the percentage of diastolic values that are above the limit of the appropriate statistic phase.	Units=[%]	---	Yes	Single

## Systolic Limit Value

Tag	Description	Attributes	Range	Required	Instance
SysLimitVal	This field contains the blood pressure limit for systolic values of the appropriate statistic phase.	None	---	No	Single

## Diastolic Limit Value

Tag	Description	Attributes	Range	Required	Instance
DiaLimitVal	This field contains the blood pressure limit for diastolic values of the appropriate statistic phase.	None	---	No	Single

## Statistic Systolic Values

Tag	Description	Attributes	Range	Required	Instance
SystolicVal	This section contains statistic values for the systolic blood pressure of the appropriate statistic phase.	Units=[mmHg]	---	Yes	Single
MinimumVal	This field contains the minimum systolic blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
MinimumTimeStamp	This section contains the time stamp for the minimum systolic blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the minimum systolic blood pressure value of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the minimum systolic blood pressure value of the appropriate statistic phase.	None	[0..59]	Yes	Single
Day	This field contains the day of the minimum systolic blood pressure value of the appropriate statistic phase.	None	[1, 2]	Yes	Single
MaximumVal	This field contains the maximum systolic blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
MaximumTimeStamp	This section contains the time stamp for the maximum systolic blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the maximum systolic blood pressure value of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the maximum systolic blood pressure value of the appropriate statistic phase.	None	[0..59]	Yes	Single
Day	This field contains the day of the maximum systolic blood pressure value of the appropriate statistic phase.	None	[1, 2]	Yes	Single
AveragedVal	This field contains the averaged systolic blood pressure value of the appropriate statistic phase.	None	Format xxx.x	Yes	Single
StdDeviation	This field contains the standard deviation for the systolic blood pressure values of the appropriate statistic phase.	None	Format xxx.x	Yes	Single

## Statistic Diastolic Values

Tag	Description	Attributes	Range	Required	Instance
DiastolicVal	This section contains statistic values for the diastolic blood pressure of the appropriate statistic phase.	Units=[mmHg]	---	Yes	Single
MinimumVal	This field contains the minimum diastolic blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
MinimumTimeStamp	This section contains the time stamp for the minimum diastolic blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the minimum diastolic blood pressure value of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the minimum diastolic blood pressure value of the appropriate statistic phase.	None	[0..59]	Yes	Single

**XML Data Export: Ambulatory Blood Pressure Measurement XML Tags**

Day	This field contains the day of the minimum diastolic systolic blood pressure value of the appropriate statistic phase.	None	[1, 2]	Yes	Single
MaximumVal	This field contains the maximum diastolic blood pressure value of the appropriate statistic phase	None	---	Yes	Single
MaximumTimeStamp	This section contains the time stamp for the maximum diastolic blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the maximum diastolic blood pressure value of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the maximum diastolic blood pressure value of the appropriate statistic phase.	None	[0..59]	Yes	Single
Day	This field contains the day of the maximum diastolic blood pressure value of the appropriate statistic phase.	None	[1, 2]	Yes	Single
AveragedVal	This field contains the averaged diastolic blood pressure value of the appropriate statistic phase.	None	Format xxx.x	Yes	Single
StdDeviation	This field contains the standard deviation for the diastolic blood pressure values of the appropriate statistic phase.	None	Format xxx.x	Yes	Single

**Statistic Mean Values**

Tag	Description	Attributes	Range	Required	Instance
MeanVal	This section contains statistic values for the mean blood pressure of the appropriate statistic phase.	Units=[mmHg]	---	Yes	Single
MinimumVal	This field contains the minimum mean blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
MinimumTimeStamp	This section contains the time stamp for the minimum mean blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the minimum mean blood pressure value of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the minimum mean blood pressure value of the appropriate statistic phase.	None	[0..59]	Yes	Single
Day	This field contains the day of the minimum mean blood pressure value of the appropriate statistic phase.	None	[1, 2]	Yes	Single
MaximumVal	This field contains the maximum mean blood pressure value of the appropriate statistic phase	None	---	Yes	Single
MaximumTimeStamp	This section contains the time stamp for the maximum mean blood pressure value of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the maximum mean blood pressure value of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the maximum mean blood pressure value of the appropriate statistic phase.	None	[0..59]	Yes	Single
Day	This field contains the day of the maximum mean blood pressure value of the appropriate statistic phase.	None	[1, 2]	Yes	Single
AveragedVal	This field contains the averaged mean blood pressure value of the appropriate statistic phase.	None	Format xxx.x	Yes	Single

StdDeviation	This field contains the standard deviation for the mean blood pressure values of the appropriate statistic phase.	None	Format xxx.x	Yes	Single
--------------	---	------	--------------	-----	--------

Statistic Heart Rate Values

Tag	Description	Attributes	Range	Required	Instance
HeartRate	This section contains statistic values for the heart rate of the appropriate statistic phase.	Units=[1/min]	---	Yes	Single
MinimumVal	This field contains the minimum heart rate value of the appropriate statistic phase.	None	---	Yes	Single
MinimumTimeStamp	This section contains the time stamp for the minimum heart rate value of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the minimum heart rate value of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the minimum heart rate value of the appropriate statistic phase.	None	[0..59]	Yes	Single
Day	This field contains the day of the minimum heart rate value of the appropriate statistic phase.	None	[1, 2]	Yes	Single
MaximumVal	This field contains the maximum heart rate value of the appropriate statistic phase.	None	---	Yes	Single
MaximumTimeStamp	This section contains the time stamp for the maximum heart rate value of the appropriate statistic phase.	None	---	Yes	Single
Hour	This field contains the hour of the maximum heart rate value of the appropriate statistic phase.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the maximum heart rate value of the appropriate statistic phase.	None	[0..59]	Yes	Single
Day	This field contains the day of the maximum heart rate value of the appropriate statistic phase.	None	[1, 2]	Yes	Single
AveragedVal	This field contains the averaged heart rate value of the appropriate statistic phase.	None	Format xxx.x	Yes	Single
StdDeviation	This field contains the standard deviation for the heart rate values of the appropriate statistic phase.	None	Format xxx.x	Yes	Single

Histogram

Tag	Description	Attributes	Range	Required	Instance
Histogram	This section contains the histogram data of systolic/diastolic values of the appropriate statistic phase.	None	---	Yes	Single
SystolicHistogram	This section contains the histogram data of systolic values of the appropriate statistic phase.	None	---	Yes	Single
XScale	This section contains the x-scale data of systolic values of the appropriate statistic phase.	Units=[mmHg]	---	Yes	Single
LowBoundValue	This field contains the low bound systolic value of the histogram x-scale of the appropriate statistic phase.	None	---	Yes	Single
DeltaValue	This field contains the difference in mmHg from one bar to the next of the histogram x-scale of the appropriate statistic phase.	None	---	Yes	Single
YValue	This field contains the y-values (systolic values in percent) of the appropriate statistic phase.	Units=[%]	---	Yes	Single
DiastolicHistogram	This section contains the histogram data of diastolic values of the appropriate statistic phase.	None	---	Yes	Single
XScale	This section contains the x-scale data of diastolic values of the appropriate statistic phase.	Units=[mmHg]	---	Yes	Single



LowBoundValue	This field contains the low bound diastolic value of the histogram x-scale of the appropriate statistic phase.	None	---	Yes	Single
DeltaValue	This field contains the difference in mmHg from one bar to the next of the histogram x-scale of the appropriate statistic phase.	None	---	Yes	Single
YValue	This field contains the y-values (diastolic values in percent) of the appropriate statistic phase.	Units=[%]	---	Yes	Single

### ABP Hourly Measurements

Tag	Description	Attributes	Range	Required	Instance
ABPHourlyMeasurements	This section contains the hourly averaged values.	None	---	Yes	Single

#### Start Hour

Tag	Description	Attributes	Range	Required	Instance
StartHour	This field contains all hours that are available.	Units=[h]	---	Yes	Single

#### Heart Rate

Tag	Description	Attributes	Range	Required	Instance
HeartRate	This field contains the hourly averaged heart rate values for the available hours.	Units=[1/min]	---	Yes	Single

#### Systolic Values

Tag	Description	Attributes	Range	Required	Instance
SystolicVal	This field contains the hourly averaged systolic values for the available hours.	Units=[mmHg]	---	Yes	Single

#### Diastolic Values

Tag	Description	Attributes	Range	Required	Instance
DiastolicVal	This field contains the hourly averaged diastolic values for the available hours.	Units=[mmHg]	---	Yes	Single

#### Mean Values

Tag	Description	Attributes	Range	Required	Instance
MeanValue	This field contains the hourly averaged mean blood pressure values for the available hours.	Units=[mmHg]	---	Yes	Single

## Number

Tag	Description	Attributes	Range	Required	Instance
Number	This field contains the number of blood pressure readings for the available hours.	None	---	Yes	Single

## ABP Measurement Tables

Tag	Description	Attributes	Range	Required	Instance
ABPMeasurementTables	This section contains measurement table of all blood pressure readings of all measurement periods.	None	---	Yes	Single

## Measurement Period

Tag	Description	Attributes	Range	Required	Instance
MeasurementPeriod	This section contains all blood pressure readings of one measurement period.	None	---	Yes	Multiple
TimeStamp	This section contains the time stamps of all blood pressure reading of this measurement period.	None	---	Yes	Single
Hour	This field contains the hours of all blood pressure readings of this measurement period.	None	[0..23]	Yes	Single
Minute	This field contains the minutes of all blood pressure readings of this measurement period.	None	[0..59]	Yes	Single
HeartRate	This field contains the pulse rates of all blood pressure readings of this measurement period.	Units=[1/min]	---	Yes	Single
SystolicValue	This field contains the systolic values of all blood pressure readings of this measurement period.	Units=[mmHg]	---	Yes	Single
DiastolicValue	This field contains the diastolic values of all blood pressure readings of this measurement period.	Units=[mmHg]	---	Yes	Single
MeanValue	This field contains the mean values of all blood pressure readings of this measurement period.	Units=[mmHg]	---	Yes	Single
MeasInvalByUser	This field contains the validity (set by the user) of all blood pressure readings of this measurement period.	None	1: invalidated by the user	Yes	Single
MeasPhaseNight	This field contains the phase information of all blood pressure readings of this measurement period.	None	1:night phase	Yes	Single
MeasManual	This field contains the type of start of all blood pressure readings of this measurement period.	None	1: measurement manually started	Yes	Single

## Spirometry XML Tags

For your notes

Tag	Description	Attributes	Range	Required	Instance
CardiologyXML	This field indicates the start of a complete examination data record.	None	---	Yes	Single

### Standard Test Information

See chapter *Standard Test Information* – *General XML Tags*.

### Simulated Patient Data

Tag	Description	Attributes	Range	Required	Instance
SimulatedPatientData	This field shows if simulated patient data is used for this examination.	None	[Yes, No]	No	Single

### Interpretation

Tag	Description	Attributes	Range	Required	Instance
Interpretation	This section contains information about the interpretation.	None	---	Yes	Single

### Diagnosis

Tag	Description	Attributes	Range	Required	Instance
Diagnosis	This section contains the system evaluation.	None	---	Yes	Single
DiagnosisText	This field contains the system evaluation text.	None	---	No	Multiple

### Conclusion

Tag	Description	Attributes	Range	Required	Instance
Conclusion	This section contains the conclusion.	None	---	Yes	Single
ConclusionText	This field contains the conclusion text.	None	---	No	Multiple

### Confirmed

Tag	Description	Attributes	Range	Required	Instance
Confirmed	This field contains the confirmation text.	None	---	Yes	Single

**SPI General**

Tag	Description	Attributes	Range	Required	Instance
SPIGeneral	This section contains general spirometry data.	None	---	Yes	Single

**Sensor Type**

Tag	Description	Attributes	Range	Required	Instance
SensorType	This field contains the sensor type which is specified for this test.	None	---	Yes	Single

**Firmware Version**

Tag	Description	Attributes	Range	Required	Instance
FirmwareVersion	This field contains the Firmware-Version of connected device.	None	---	Yes	Single

**Reference Equation**

Tag	Description	Attributes	Range	Required	Instance
ReferenceEquation	This field contains the denotation of the equation for reference value calculation.	None	[ECCS, Austrian, ECCS/ZAP, Forche, NHANESIII, Knudson, Brazil, Finland]	Yes	Single

**Measurement Mode**

Tag	Description	Attributes	Range	Required	Instance
MeasMode	This field contains the measurement mode.	None	[Normal, ATS, Envelope]	Yes	Single

**PT Code Data**

Tag	Description	Attributes	Range	Required	Instance
PTCodeData	This section contains the PT Code and the corresponding date/time of the last confirmation of the PT-Code.	None	---	Yes	Single
Code	This field contains the PT Code.	None	Special values [700 ... 799]	Yes	Single

**XML Data Export: Spirometry XML Tags**

Hour	This field contains the hour of the last confirmation of the PT-Code.	None	[0..23]	Yes	Single
Minute	This field contains the minute of the last confirmation of the PT-Code.	None	[0..59]	Yes	Single
Second	This field contains the second of the last confirmation of the PT-Code.	None	[0..59]	Yes	Single
Year	This field contains the year of the last confirmation of the PT-Code.	None	xxxx	Yes	Single
Month	This field contains the month of the last confirmation of the PT-Code.	None	[1..12]	Yes	Single
Day	This field contains the day of the last confirmation of the PT-Code.	None	[1..31]	Yes	Single

**Ambient Conditions**

Tag	Description	Attributes	Range	Required	Instance
AmbConditions	This section contains the ambient conditions at the start of the test.	None	---	Yes	Single
AtmosPress	This field contains the atmospheric pressure.	Units=[hPa, mmHg]	[600..1200 hPa, 450..900 mmHg]	Yes	Single
RelHumidity	This field contains the relative humidity.	Units=[%]	[10..90]	Yes	Single
VCTemp	This field contains the respiration air temperature of the VC test (only applicable for LF501)	Units=[°C, °F]	[30..37°C, 86..99 °F]	Yes	Single
FVCTemp	This field contains the respiration air temperature of the FVC test (only applicable for LF501)	Units=[°C, °F]	[30..37°C, 86..99 °F]	Yes	Single
AmbTemp	This field contains the ambient temperature.	Units=[°C, °F]	[10..40 °C, 50..104°F]	Yes	Single

**Interpretation Mode**

Tag	Description	Attributes	Range	Required	Instance
InterpretationModel	This field contains the interpretation mode.	None	[Miller, CHS, Europe]	Yes	Single

**ATS Summary**

Tag	Description	Attributes	Range	Required	Instance
ATS-Summary	This field contains the ATS (American Thoracic Society) summary if this measurement mode was selected (language dependant).	None	---	Yes	Single

## SPI General Parameters

Tag	Description	Attributes	Range	Required	Instance
SPIParamsGeneral	This section contains general parameters of the spirometry test	None	---	Yes	Single

### Parameter IDs

Tag	Description	Attributes	Range	Required	Instance
ParamIDs	This field contains the parameter IDs in a given order.	None	---	Yes	Single

### Parameter Units

Tag	Description	Attributes	Range	Required	Instance
ParamUnits	This field contains the parameter units in the same given order like the IDs.	None	---	Yes	Single

### Predicted Parameters

Tag	Description	Attributes	Range	Required	Instance
ParamPredicted	This field contains the predicted values in the same given order like the IDs.	None	---	Yes	Single

## SPI General Waveform Parameters

Tag	Description	Attributes	Range	Required	Instance
SPIWaveformsGeneral	This section contains general parameters for all the following SPI measurements. The parameter values depend on the specified scale.	None	---	Yes	Single

### Flow Increments

Tag	Description	Attributes	Range	Required	Instance
FlowIncrements	This field contains the flow increment value.	Units=[m]	---	Yes	Single

### Flow Resolution

Tag	Description	Attributes	Range	Required	Instance
FlowResolution	This field contains the flow resolution value.	Units=[m/s]	---	Yes	Single



## Volume Resolution

Tag	Description	Attributes	Range	Required	Instance
VolResolution	This field contains the volume resolution value.	Units=[ml]	---	Yes	Single

## Maximum Flow Value

Tag	Description	Attributes	Range	Required	Instance
MaxFlowValue	This field contains the maximum flow value.	Units=[ml/s]	---	Yes	Single

## Minimum Flow Value

Tag	Description	Attributes	Range	Required	Instance
MinFlowValue	This field contains the minimum flow value.	Units=[ml/s]	---	Yes	Single

## Maximum Volume Value

Tag	Description	Attributes	Range	Required	Instance
MaxVolValue	This field contains the maximum volume value.	Units=[ml]	---	Yes	Single

## Minimum Volume Value

Tag	Description	Attributes	Range	Required	Instance
MinVolValue	This field contains the minimum volume value.	Units=[ml]	---	Yes	Single

## SPI Measurements

Tag	Description	Attributes	Range	Required	Instance
SPIVCMeasBest SPIFVCMeasBest SPIFVCMeasATS1 SPIFVCMeasATS2 SPIFVCMeasATS3	This section contains the appropriate spirometry measurements: best VC measurement, best FVC measurement, best / second best / third best measurement according ATS. Each of this sections contain identical fields.	None	---	Yes	Single

ATS Acceptability

Tag	Description	Attributes	Range	Required	Instance
ATS-Acceptability	This field contains the ATS-Acceptability (language dependant).	None	---	Yes	Single

Parameter Values

Tag	Description	Attributes	Range	Required	Instance
ParamValues	This field contains the parameter values in the same given order like the tag "ParamIDs".	None	---	Yes	Single

Back Extrapolated Volume

Tag	Description	Attributes	Range	Required	Instance
BackExVol	This field contains the back extrapolated volume (to determine start of test)	Units=[ml]	---	Yes	Single

Forced Expiration Time

Tag	Description	Attributes	Range	Required	Instance
ForcedTimeEx	This field contains the duration of the forced expiration.	Units=[ms]	---	Yes	Single

Number of Expiratory Flow Samples

Tag	Description	Attributes	Range	Required	Instance
FlowLenEx	This field contains the number of expiratory flow samples.	None	---	Yes	Single

Number of Inspiratory Flow Samples

Tag	Description	Attributes	Range	Required	Instance
FlowLenIn	This field contains the number of inspiratory flow samples.	None	---	Yes	Single

Number of Expiratory Volume Samples

Tag	Description	Attributes	Range	Required	Instance
VollenEx	This field contains the number of expiratory volume samples.	None	---	Yes	Single

Number of Inspiratory Volume Samples

Tag	Description	Attributes	Range	Required	Instance
VollLenIn	This field contains the number of inspiratory volume samples.	None	---	Yes	Single

Waveforms

Tag	Description	Attributes	Range	Required	Instance
Waveforms	This section contains the waveform data.	None	---	Yes	Single
FlowData	This field contains the data for the flow waveform.	None	---	Yes	Single
VolumeData	This field contains the data for the volume waveform.	None	---	Yes	Single



**GE Medical Systems**  
*Information Technologies*



---

[gemedical.com](http://gemedical.com)

World Headquarters  
GE Medical Systems  
Information Technologies, Inc.  
8200 West Tower Avenue  
Milwaukee, WI 53223 USA  
Tel. +1 414 355 5000  
1 800 558 5120 (US only)  
Fax +1 414 355 3790

European Representative  
GE Medical Systems  
Information Technologies GmbH  
Munzinger Straße 3  
D-79111 Freiburg  
Germany  
Tel. +49 761 45 43 - 0  
Fax +49 761 45 43 - 233

Asia Headquarters  
GE Medical Systems  
Information Technologies Asia; GE (China)Co., Ltd.  
24th Floor Shanghai MAXDO Centre,  
8 Xing Yi Road, Hong Qiao Development Zone  
Shanghai 200336, P.R. China  
Tel: +86-21-5257-4650  
Fax: +86-21-5208-2008