

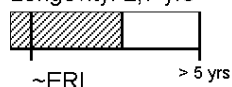
FastPath™ Summary

 **1 Alert**


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Battery

Longevity: 2,7 yrs


 Implant Date: 11 Feb 2020
 Last Max Charge: 2,4 sec (Therapy)
 Battery Current: 27 uA
 Remaining Capacity to ERI: 56%

Test Results 8 Mar 2022



 Automatic

	Capture	Sense	Lead Impedance
A	Not Performed 0,5V @ 0,5ms (Bi) 15 Dec 2021	Not Performed 1,4mV (Bi) 5 Mar 2022	360 Ω (Bi)  360 Ω (Bi) 4 Mar 2022
RV	Not Performed 0,5V @ 0,5ms (Bi) 15 Dec 2021	Not Performed >12,0mV (RV Bi) 5 Mar 2022	360 Ω (Bi)  390 Ω (Bi) 4 Mar 2022
LV	Not Performed 0,75V @ 0,5ms (LVT-RVC) 15 Dec 2021		380 Ω (LVT-RVC)  460 Ω (LVT-RVC) 4 Mar 2022
HV			30 Ω (RV to SVC & Can)  33 Ω (RV to SVC & Can) 5 Mar 2022

Parameters

Mode	DDDR	Zone Configuration	VT	VF
Base Rate	▶ 75 bpm	Detection Criteria	171 bpm	200 bpm
Max Track Rate	110 bpm	Therapy (ENABLED)	ATP x3	ATP x1
Paced AV Delay	180 ms		25,0 J	36,0 J
Sensed AV Delay	150 ms		36,0 J	40,0 J
Ventricular Pacing	LV → RV, 60 ms		40,0 J x2	40,0 J x4

Capture & Sense

	A	RV	LV
Cap Confirm	Off	Off	Off
Pulse Amplitude	2,0 V	2,0 V	2,75 V
Pulse Width	0,5 ms	0,5 ms	0,5 ms
AutoSense	On	On	
Sensitivity	Auto 	Auto 	

Diagnostics Summary

Since 8 Mar 2022

AP	99 %
BP	99 %
AMS Episodes	1
Mode Switch	<1%
AT/AF Burden	0%

VT/VF Episodes: 0

Since 5 Mar 2022

	VT	VF
Episodes	0	0
ATP Delivered	0	0
Shocks Delivered	0	0
SVT Episodes: 0		

Alerts



LV. Lead Type is Uncoded

▶ Manual-programmed ▶ Auto-programmed

Episodes Summary

Page 1 of 1

Episodes Last Cleared	11 Feb 2020 11:15	Last Read	8 Mar 2022 15:52
SEGMs Last Cleared	11 Feb 2020 11:15		

Therapy Summary

	VT	VF
ATP Delivered	0	14
Shocks Delivered	0	22
Max Energy Shocks	0	2
Last HV Lead Impedance	33 Ω	
Total Aborted Shocks	7	

Results of ATP Delivery

	VT	VF
Episodes Terminated	0	4
Episodes Not Terminated	0	10
Accelerations	0	

Episode Tree

No tachyarrhythmia episodes detected

VT/VF Episodes

No episodes recorded since last session

Other Episodes

Date / Time	Type	Peak A / V Rate (bpm)	Duration (D:H:M:S)	Alerts
7 Mar 2022 16:28	AMS	202 / 91	0:00:00:08	

Extended Diagnostics

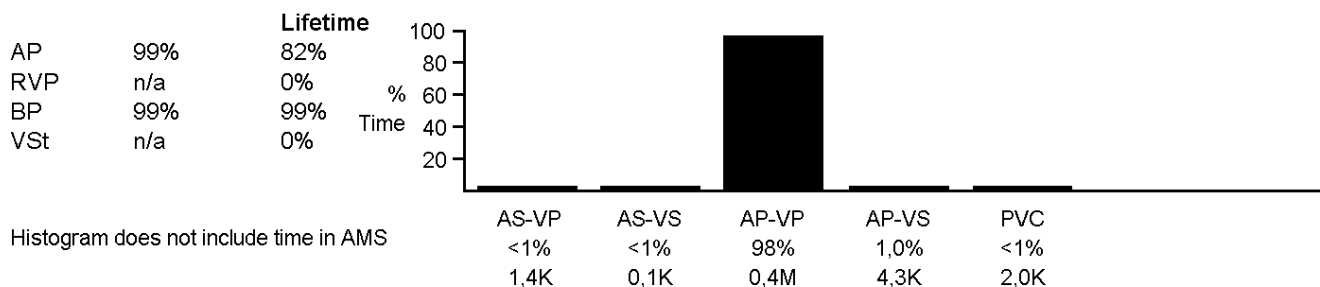
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Parameters

Mode	DDDR	Max Track Rate	110 bpm
Base Rate	85 bpm	Paced/Sensed AV Delay	180/150 ms
Max Sensor Rate	100 bpm		

Events

Since 8 Mar 2022

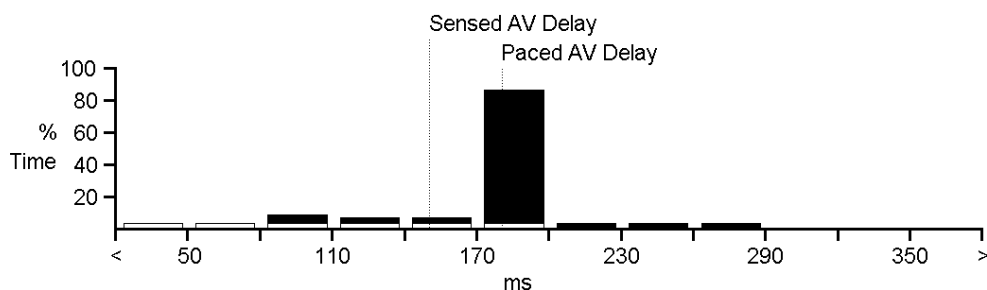


AV Interval

Since 8 Mar 2022

AV Conduction <1 %
 VS-AS Intervals 0
 < 80 ms

■ (AS-VP, AP-VP)
 □ (AS-VS, AP-VS)



Excludes time in AMS

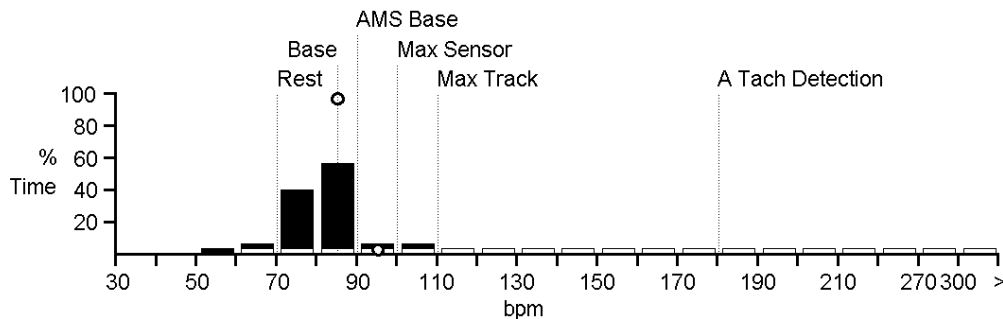
AS-VP %			<1	<1	<1	<1	<1	<1	<1				
AP-VP %			8,3	3,0	<1	87							
AS-VS %	<1	<1	<1	<1	<1	<1							
AP-VS %		<1	<1	<1	<1	<1							
Total %	<1	<1	8,5	3,2	1,1	87	<1	<1	<1				

Atrial Heart Rate Histogram

Since 8 Mar 2022

AF Suppression™ n/a
 Time at Max Track Rate <1%

■ Paced (AP)
 □ Sensed (AS)
 ○ Sensor-Indicated Rate



AP %			<1	<1	41	56	3,0	<1											
AS %			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total %			<1	<1	41	56	3,0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sensor %						97	2,9												

Extended Diagnostics

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Ventricular Heart Rate Histogram

PMT Detections 0

Time at Max Track ≤1%

Rate

Since 8 Mar 2022

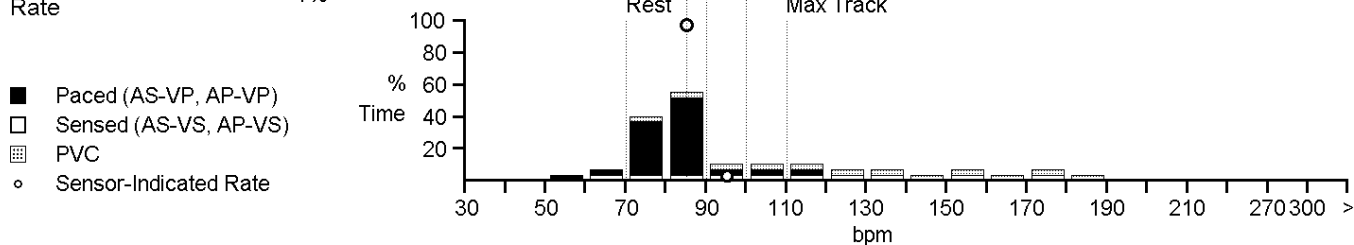
AMS Base

Base

Max Sensor

Rest

Max Track



Excludes time in AMS

[illegible]

AT/AF Burden

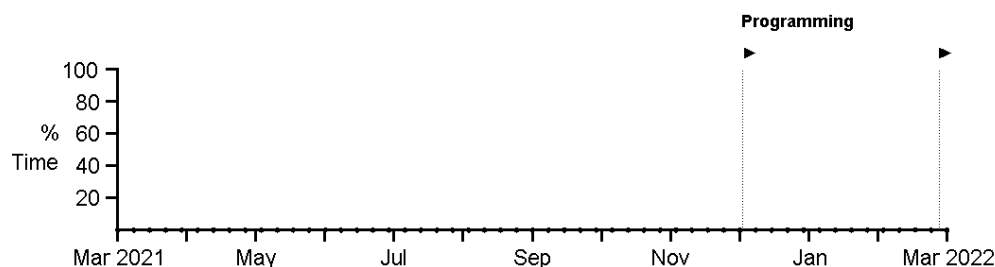
0%

Since 8 Mar 2022

Total AT/AF Burden <1%

Since 11 Feb 2020

(0m 0d sampled in AT/AF)



Week	D:H:M:S	%	Week	D:H:M:S	%	Week	D:H:M:S	%
16 Mar 2021	0:00:00:00	0	20 Jul 2021	0:00:00:00	0	23 Nov 2021	0:00:00:32	<1
23 Mar 2021	0:00:00:00	0	27 Jul 2021	0:00:00:00	0	30 Nov 2021	0:00:00:00	0
30 Mar 2021	0:00:00:00	0	3 Aug 2021	0:00:00:00	0	7 Dec 2021	0:00:00:00	0
6 Apr 2021	0:00:00:00	0	10 Aug 2021	0:00:00:00	0	14 Dec 2021	0:00:00:00	0
13 Apr 2021	0:00:00:00	0	17 Aug 2021	0:00:00:00	0	21 Dec 2021	0:00:00:00	0
20 Apr 2021	0:00:00:00	0	24 Aug 2021	0:00:00:00	0	28 Dec 2021	0:00:00:00	0
27 Apr 2021	0:00:00:00	0	31 Aug 2021	0:00:00:00	0	4 Jan 2022	0:00:00:00	0
4 May 2021	0:00:00:00	0	7 Sep 2021	0:00:00:00	0	11 Jan 2022	0:00:00:44	<1
11 May 2021	0:00:00:00	0	14 Sep 2021	0:00:00:00	0	18 Jan 2022	0:00:00:32	<1
18 May 2021	0:00:00:00	0	21 Sep 2021	0:00:00:00	0	25 Jan 2022	0:00:00:26	<1
25 May 2021	0:00:00:16	<1	28 Sep 2021	0:00:00:00	0	1 Feb 2022	0:00:01:40	<1
1 Jun 2021	0:00:00:00	0	5 Oct 2021	0:00:00:00	0	8 Feb 2022	0:00:01:04	<1
8 Jun 2021	0:00:00:00	0	12 Oct 2021	0:00:00:00	0	15 Feb 2022	0:00:01:46	<1
15 Jun 2021	0:00:00:00	0	19 Oct 2021	0:00:00:00	0	22 Feb 2022	0:00:00:16	<1
22 Jun 2021	0:00:00:00	0	26 Oct 2021	0:00:00:00	0	1 Mar 2022	0:00:16:02	<1
29 Jun 2021	0:00:00:00	0	2 Nov 2021	0:00:00:16	<1	8 Mar 2022	0:00:02:28	<1
6 Jul 2021	0:00:00:00	0	9 Nov 2021	0:00:00:28	<1	8 Mar 2022	0:00:00:00	0
13 Jul 2021	0:00:00:00	0	16 Nov 2021	0:00:00:00	0			

0m 3d 11h 33m Sampled since 5 Mar 2022

0m 0d 0h <1m Sampled in AMS

Last Read: 8 Mar 2022

Unify™ 3235-40 CRT-D (9867222 prC.D.9E)

Merlin™ PCS (#12051896 3330 v25.0.2 rev 4)

Extended Diagnostics Page 2 of 4

8 Mar 2022 15:55

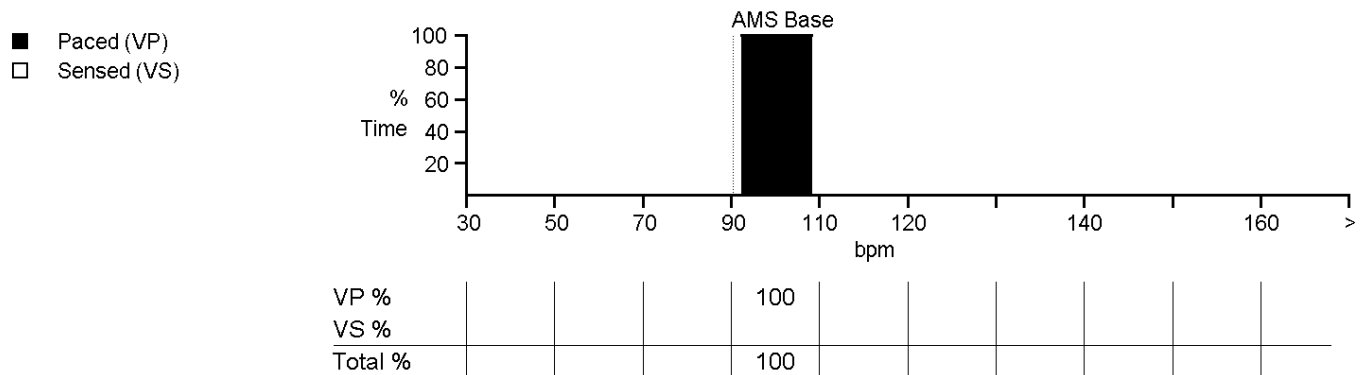


Extended Diagnostics

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V Rates During AMS

Since 8 Mar 2022

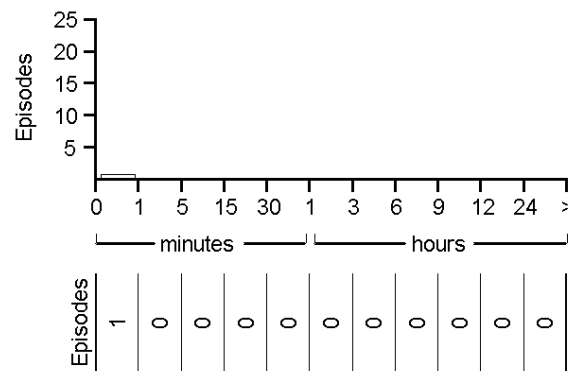
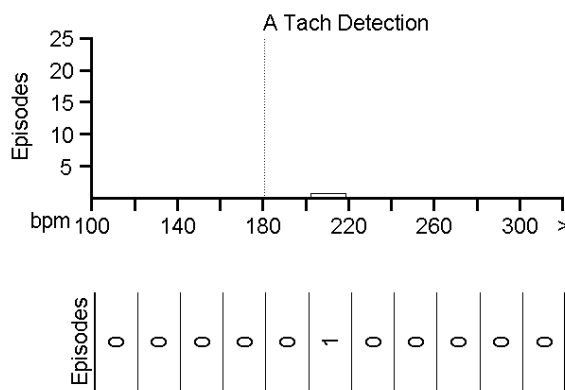


AMS Summary

Since 8 Mar 2022

AMS Episodes 1
 Mode Switch <1%
 Duration

Peak A Rate



Key AMS Log Episodes	Date and Time	Peak A Rate	Peak V Rate	Duration (D:H:M:S)
Most Recent Episode	7 Mar 2022 16:28	202 bpm	91 bpm	0:00:00:08
Peak V Rate Episode	7 Mar 2022 16:28	202 bpm	91 bpm	0:00:00:08
Longest Episode	7 Mar 2022 16:28	202 bpm	91 bpm	0:00:00:08

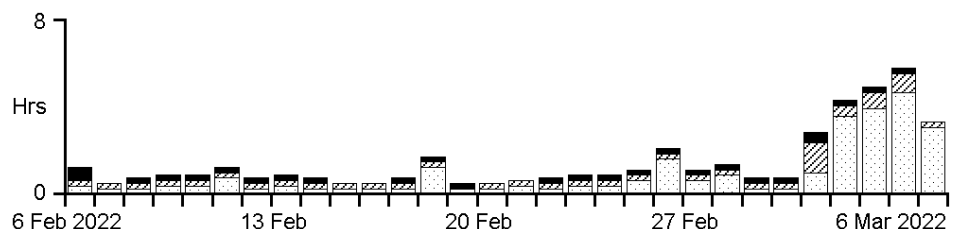
AMS Log

EGMs	Date and Time	Peak A Rate	Peak V Rate	Duration (D:H:M:S)
	7 Mar 2022 16:28	202 bpm	91 bpm	0:00:00:08

Daily Exercise Training (Activity >1 minute)

Max Heart Rate 143 bpm

■ >80% Max HR
 ▨ 60-80% Max HR
 (Target HR)
 ▤ 40-60% Max HR



Om 3d 11h 33m Sampled since 5 Mar 2022

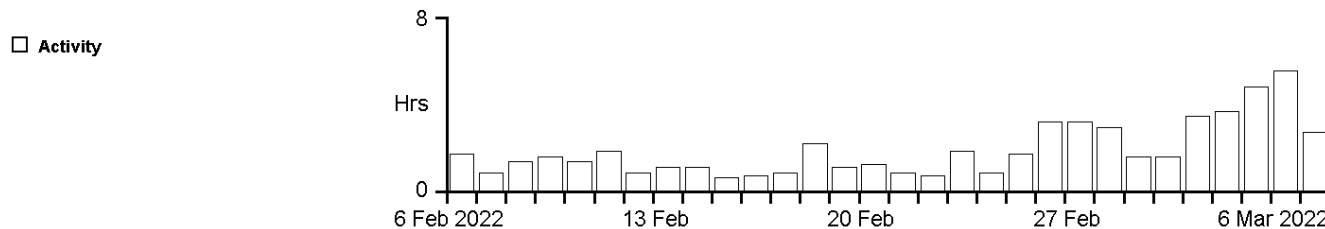
Om 0d 0h <1m Sampled in AMS

Last Read: 8 Mar 2022

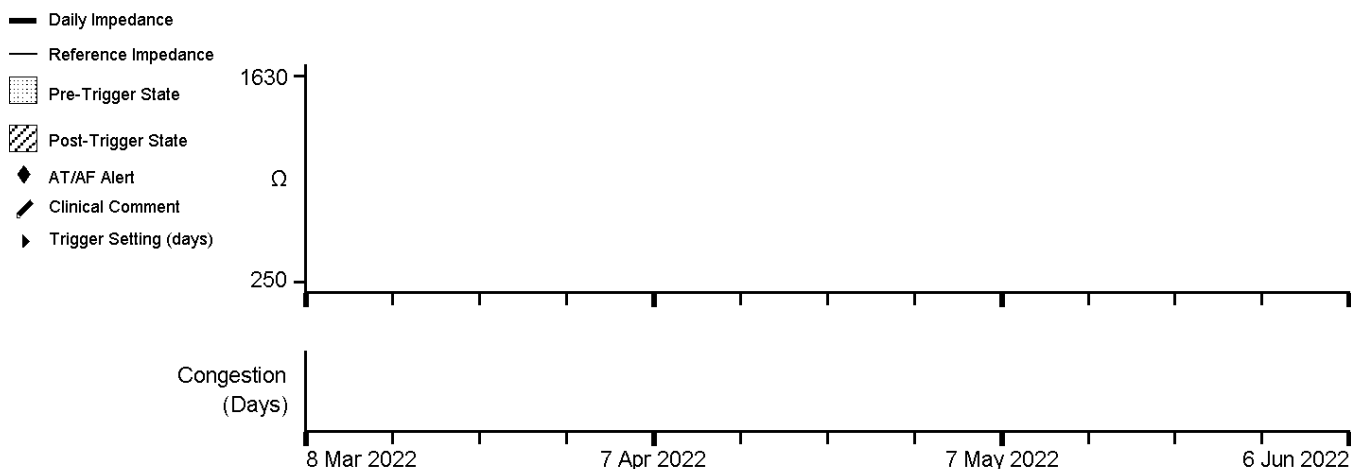
Extended Diagnostics

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Total Daily Activity



CorVue™ Congestion Monitoring is OFF (3 Month View)



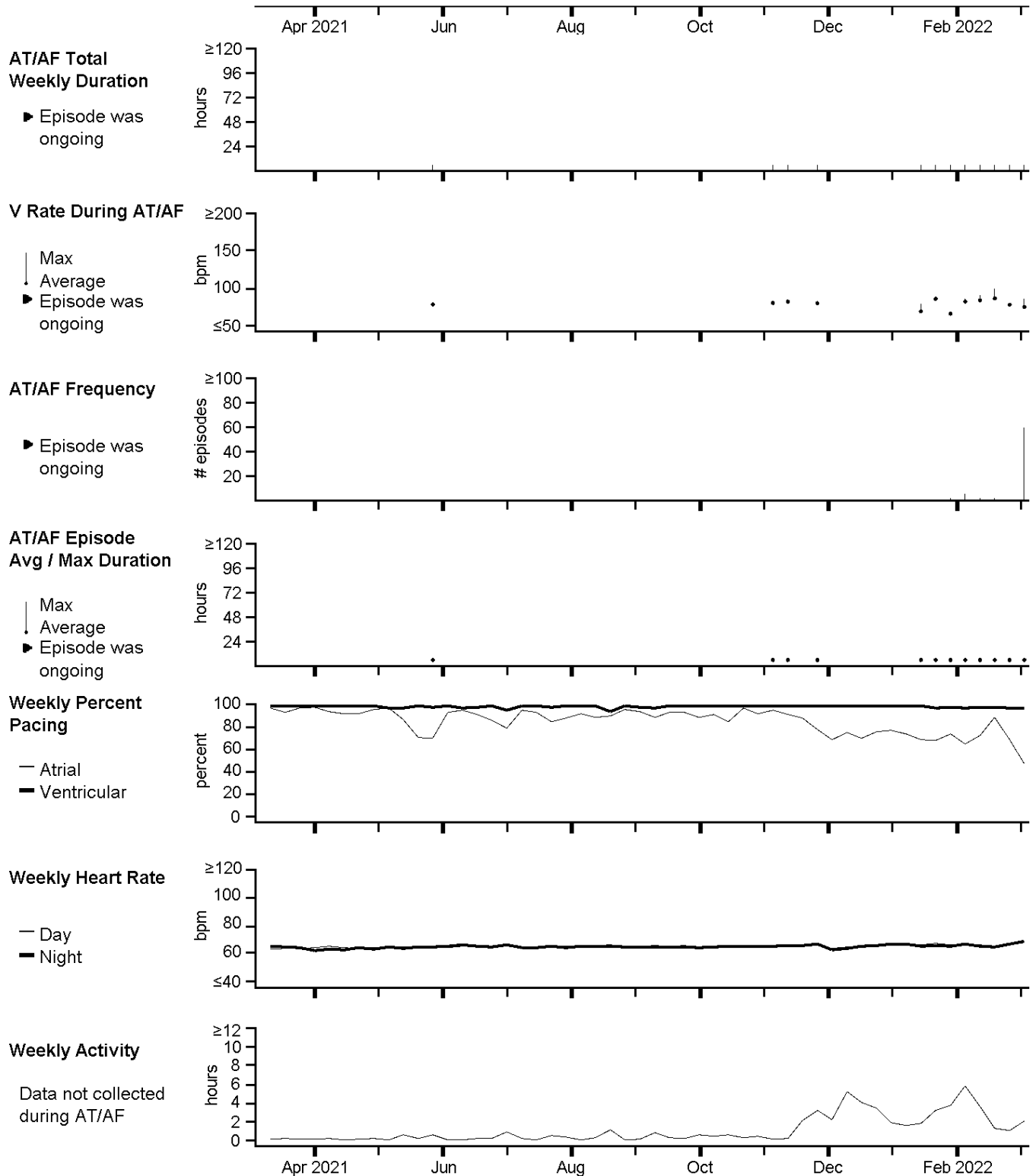
CorVue™ Congestion Monitoring is an additional information source for patient management. It is not meant to replace clinical assessments that are part of standard clinical practice.

Congestion Details (Last Session: 5 Mar 2022)

No Congestion Episodes recorded

DirectTrend™ 1 Year Weekly

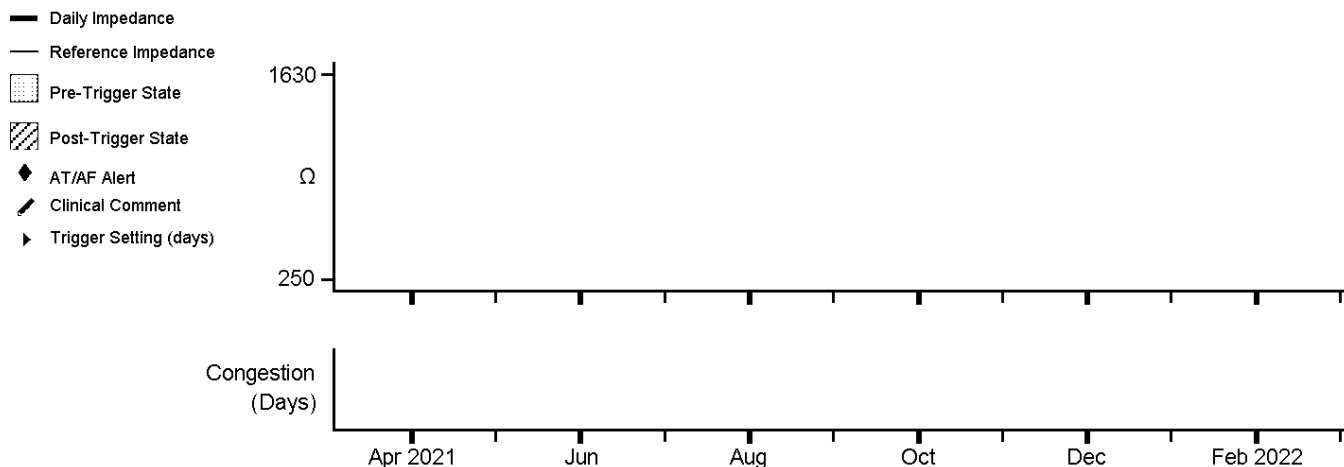
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DirectTrend™ 1 Year Weekly

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CorVue™ Congestion Monitoring is OFF



CorVue™ Congestion Monitoring is an additional information source for patient management. It is not meant to replace clinical assessments that are part of standard clinical practice.

Test Results: Atrium

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Atrial Capture Test

 No result recorded
 0,5 V @ 0,5 ms (Bi)

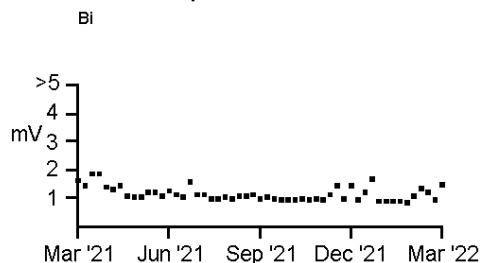
 8 Mar 2022
 15 Dec 2021

Atrial Sense Test

 No result recorded
 1,4 - 1,6 mV (Bi)

 8 Mar 2022
 5 Mar 2022

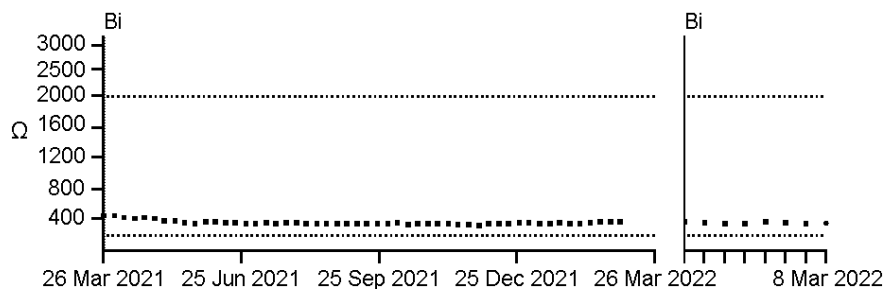
Atrial Sense Amplitude Trend



Atrial Lead Impedance:

360 Ω (Bi) 8 Mar 2022

1-year trend



Last 7 Days



Programmed Pulse Configuration	Bipolar
Lead Monitoring	Monitor
Lower Limit	200 Ω
Upper Limit	2.000 Ω

Configurations

Bipolar

First Measurement

460 Ω (11 Feb 2020)

Lifetime Range

330 - 550 Ω

Test Results: Right Ventricle

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Right Ventricular Capture Test

 No result recorded
 0,5 V @ 0,5 ms (Bi)

 8 Mar 2022
 15 Dec 2021

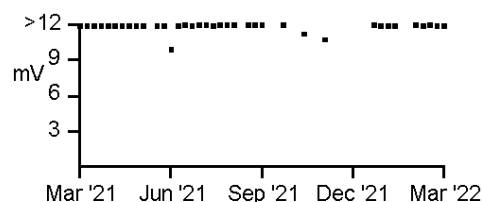
Ventricular Sense Test

 No result recorded
 11,9 - >12,0 mV (RV Bi)

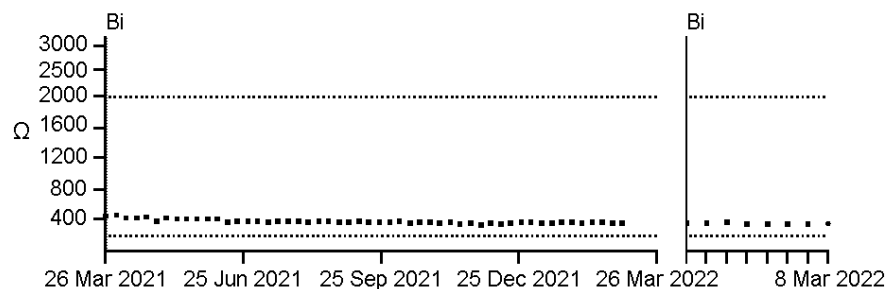
 8 Mar 2022
 5 Mar 2022

RV Sense Amplitude Trend

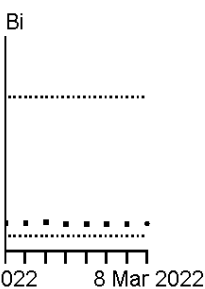
RV Bi


Right Ventricular Lead Impedance: 360 Ω (Bi) 8 Mar 2022

1-year trend



Last 7 Days



Programmed Pulse Configuration	Bipolar
Lead Monitoring	Monitor
Lower Limit	200 Ω
Upper Limit	2.000 Ω

Configurations

Bipolar

First Measurement

550 Ω (11 Feb 2020)

Lifetime Range

340 - 600 Ω



Test Results: Left Ventricle

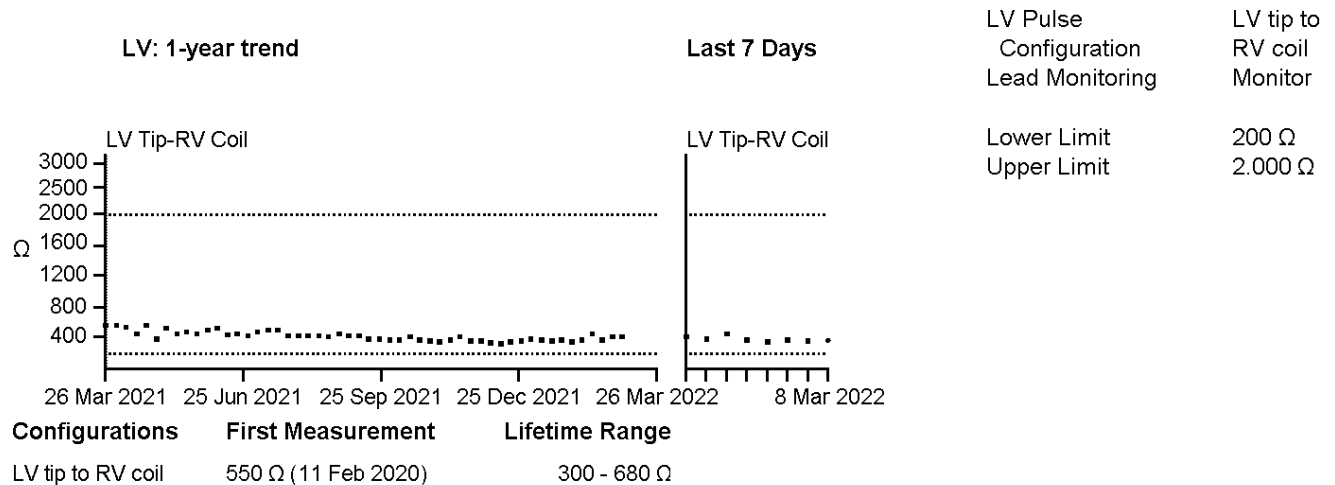
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Left Ventricular Capture Test

No result recorded
0,75 V @ 0,5 ms (LVt-RVc)

8 Mar 2022
15 Dec 2021

LV Lead Impedance: 380 Ω (LV Tip-RV Coil) 8 Mar 2022





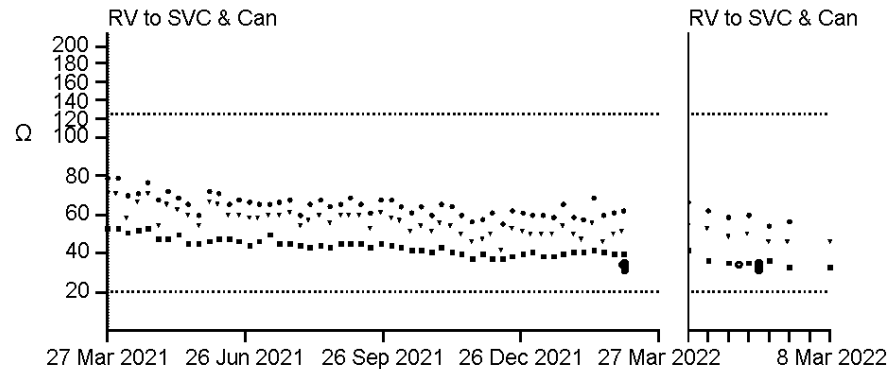
Test Results: HV Lead Impedance and Battery

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HV Lead Impedance:

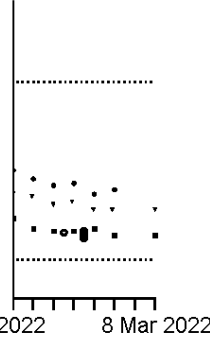
30 Ω (RV to SVC & Can) 8 Mar 2022

1-year trend



Last 7 Days

RV to SVC & Can



Programmed Shock Configuration RV to SVC & Can
 Lower Limit 20 Ω
 Upper Limit 125 Ω

- RV to Can
- RV to SVC
- ▼ SVC to Can
- ◊ Therapies

	RV to Can	RV to SVC	SVC to Can	Therapies (RV to SVC & Can)
First Measurement	65 Ω (11 Feb 2020)	69 Ω (11 Feb 2020)	69 Ω (11 Feb 2020)	34 Ω (3 Mar 2022)
Lifetime Range	33 - 65 Ω	51 - 82 Ω	37 - 74 Ω	31 - 35 Ω

Battery Information

Longevity: 2,7 yrs



Last Max Charge

2,4 sec (Therapy)

Longevity estimate is based on
 patient history

Battery Current

27 μ A

Remaining Capacity to ERI

56%

Presenting Rhythm Freeze

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8 Mar 2022 15:52

Key Parameters

Mode	DDDR
Base Rate	85 bpm
Rest Rate	70 bpm
Paced AV Delay	180 ms
Sensed AV Delay	150 ms
Max Track Rate	110 bpm
Max Sensor Rate	100 bpm
Hysteresis Rate	Off
ACap™ Confirm	Off
RVCap™ Confirm	Off
LVCap™ Confirm	Off
AF Suppression™	Off
Negative AV Hysteresis/Search	-40 ms
Rate Responsive AV Delay	Medium
Rate Responsive PVARP/V Ref	Low
Ventricular Safety Standby	On

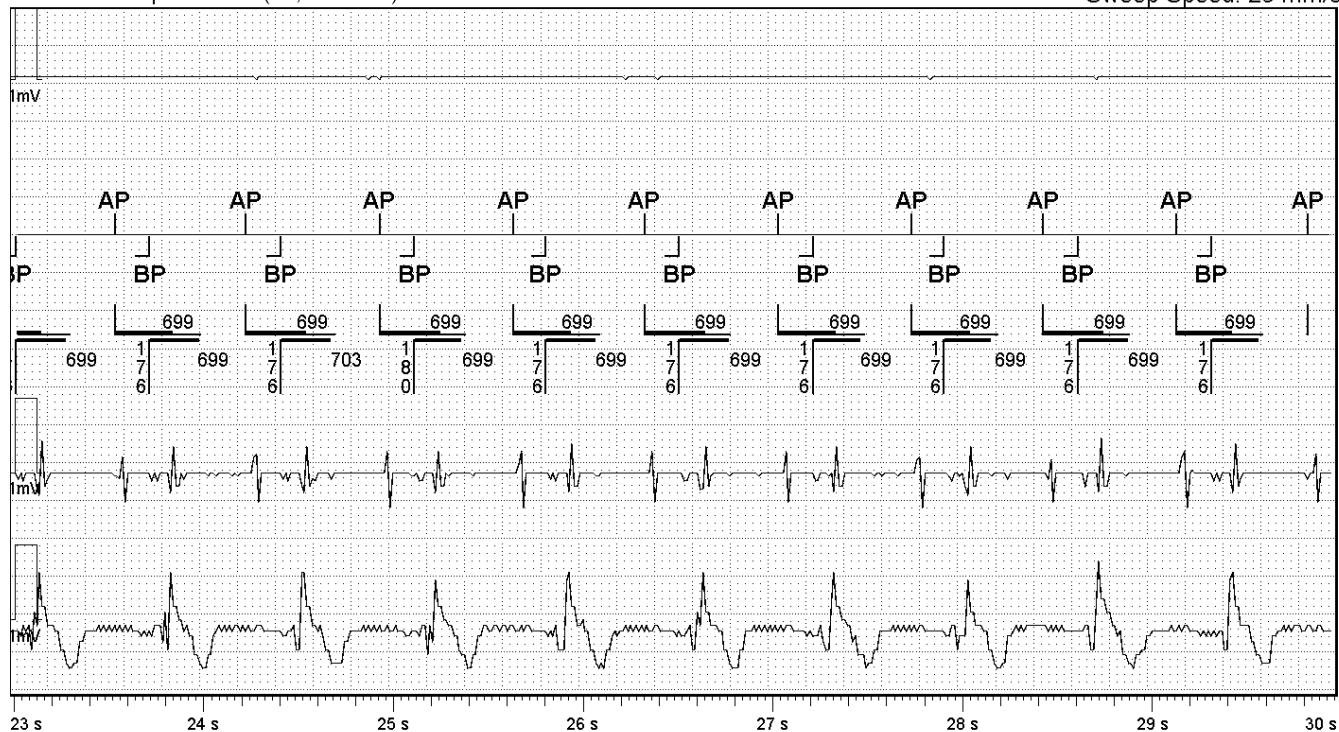
1: II AutoGain (100,0 mm/mV)

4: RV Bipolar AutoGain (10,0 mm/mV)

2: Markers

3: A Sense Amp AutoGain (10,0 mm/mV)

Sweep Speed: 25 mm/s



Parameters

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Patient

 Date of Birth 10 Mar 1944
 EF % Unknown

Indications for Implant

Device	Manufacturer	Model	Serial	Implant Date
CRT-D A Lead RV Lead LV Lead	St. Jude Medical	Unify™ 3235-40	9867222	11 Feb 2020

Basic Operation

Mode	DDDR
Ventricular Pacing	LV → RV, 60 ms
V. Triggering	Off
Magnet Response	Normal
V. Noise Reversion Mode	Pacing Off
Episodal Pacing Mode	VVI
Sensor	On
Threshold (Measured Avg.)	Auto (+0.0) (2,0)
Slope	8
Max Sensor Rate	100 bpm
Reaction Time	Slow
Recovery Time	Medium

Refractories & Blanking

PVARP	275 ms
Post-Vent. Atrial Blanking	120 ms
Rate Responsive PVARP/V Ref	Low
Shortest PVARP/V Ref	225 ms
A/V Pace Refractory	190/250 ms
A/V Sense Refractory	93/125 ms
Ventricular Blanking	52 ms
Ventricular Safety Standby	On
Arrhythmia Unhiding	3 intervals
PVC Response	Off
PMT Response	Atrial Pace
PMT Detection Rate	110 bpm

Rates

Base Rate	► 75 bpm
Rest Rate	70 bpm
Max Sensor Rate	100 bpm
Max Track Rate	110 bpm
Hysteresis Rate	Off
2:1 Block Rate	164 bpm

AT/AF Detection & Response

Auto Mode Switch	DDIR
AMS V. Triggering	Off
A. Tachycardia Detection Rate	180 bpm
AMS Base Rate	90 bpm
AF Suppression™	Off

Delays

Paced AV Delay	180 ms
Sensed AV Delay	150 ms
Rate Responsive AV Delay	Medium
Shortest AV Delay	100 ms
Negative AV Hysteresis/Search	-40 ms

Capture & Sense

	A	RV	LV
Cap Confirm	Off	Off	Off
Pulse Amplitude	2,0 V	2,0 V	2,75 V
Pulse Width	0,5 ms	0,5 ms	0,5 ms
AutoSense	On	On	
Sensitivity	Auto A	Auto A	

 Last Programmed: Today 15:53
 Parameters that are "n/a" are not shown

 Bold values were changed this session (See
 Wrap-up™ Overview report for details)

 ► Manual-programmed **A** Automatic
 ↳ Auto-programmed

Parameters

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Leads

	A	RV	LV
Lead Type	Bipolar	Bipolar	Uncoded
Pulse Configuration	Bipolar	Bipolar	LV tip to RV coil
Sense Configuration	Bipolar	RV Bipolar	
Lead Monitoring	Monitor	Monitor	Monitor
Lower Limit	200 Ω	200 Ω	200 Ω
Upper Limit	2.000 Ω	2.000 Ω	2.000 Ω
HVLI Lower Limit		20 Ω	
HVLI Upper Limit		125 Ω	

ShockGuard™ Settings (Zone Configuration)

	VT	VF
Detection Criteria	171 bpm/350 ms 16 intervals	200 bpm/300 ms 12 intervals
SVT Discrimination	On	
Therapy	ATP x3 25,0 J/704 V 36,0 J/845 V 40,0 J/890 V x2	ATP x1 36,0 J/845 V 40,0 J/890 V 40,0 J/890 V x4
VT Therapy Timeout	Off	

SVT Discrimination

SVT Discrimination	Dual Chamber
SVT Discrimination Timeout	Off
SVT Upper Limit	Same as VF

Rate Branch	Additional Discriminators				Diagnosis
AF/A Flutter V < A	Morphology Morphology	Off	Interval Stability Interval Stability Stability Delta AV Association Delta Window Size	On w/AVA 40 ms 60 ms 12 intervals	Deliver therapy only if the criteria in this rate branch indicate VT.
Sinus Tach V = A: AV Interval Delta:	On 60 ms	Morphology Morphology	Off	Sudden Onset Sudden Onset Onset Delta	On 100 ms
					Deliver therapy only if the active criteria in this rate branch indicate VT.

VT/VF

V > A					If Ventricular Rate is greater than the Atrial Rate, deliver therapy.
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Parameters

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ATP Details

 ATP Pulse Amplitude 7,5 V
 ATP Pulse Width 1,0 ms

	VT		VF	
	Therapy 1	Therapy 2	Therapy 1	
ATP Type			ATP While Charging	
ATP Upper Rate Cutoff			250 bpm/240 ms	
Number of Bursts	3		1	
Number of Stimuli	8		8	
Add Stimuli per Burst	Off			
Burst Cycle Length	85 %		85 %	
Min. Burst Cycle Length	200 ms		170 ms	
Readaptive	Off			
Scanning	On (Dec)			
Scan Step	10 ms			
Ramp	Off		Off	

SenseAbility™ Settings

	A		RV	
			Pacemaker	Defib
Max Sensitivity	0,3 mV		Same as Defib	0,5 mV
	(0,3 mV @ 110 bpm)		(0,5 mV @ 110 bpm)	(0,5 mV @ 110 bpm)
Low Frequency Attenuation				On
	Post-Sensed	Post-Paced	Post-Sensed	Post-Paced
Decay Delay	0 ms	0 ms	60 ms	95 ms
Threshold Start	50 %	0,8 mV	50 %	1,0 mV

DeFT Response™ Settings (Shock Waveform)

Waveform	Biphasic	
Waveform Mode	Tilt	
Shock Configuration	RV to SVC & Can	
RV Polarity	Anode(+)	
	1st Phase	2nd Phase
VF Shocks (Defib)	65 %	65 %
VT Shocks (CVRT)	Same as Defib	Same as Defib
Estimated Defib Pulse Width	3,7 ms	
Estimated CVRT Pulse Width	3,7 ms	
Shock Impedance	30 Ω (Measured)	

Post-Shock Pacing

 Mode DDD
 Base Rate 60 bpm
 Pause 2 sec
 Duration 0,5 min

Redetection & Post-Detection

 VT Redetection 6 intervals
 Sinus Redetection Nominal (5 intervals)
 Post VF Detection Same as VT
 Post VT Detection Same as VT

	A	BV
Pulse Amplitude	7,5 V	7,5 V
Pulse Width	1,5 ms	1,5 ms

Capacitor Maintenance
 Charge Interval 4 months

 Last Programmed: Today 15:53
 Parameters that are "n/a" are not shown

 Bold values were changed this session (See
 Wrap-up™ Overview report for details)

 ▶ Manual-programmed **A** Automatic
 ↳ Auto-programmed

Parameters

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Congestion Monitoring

Congestion Monitoring Off

Trigger Alerts When

	Show on FastPath™	Notify Patient
AT/AF Episode (3 hours)	On	Off
AT/AF Burden (6 hours evaluated daily)	On	Off
V Rate during AT/AF (100 bpm for 6 hours, evaluated daily)	On	Off
A Lead Impedance Out of Range (200 - 2,000 Ω)	On	On
RV Lead Impedance Out of Range (200 - 2,000 Ω)	On	On
LV Lead Impedance Out of Range (200 - 2,000 Ω)	On	On
HV Lead Impedance Out of Range (20 - 125 Ω)	On	On
Percent BiV Pacing Alert (<90% over 7 days)	On	Off
Device at ERI	On	On
Charge Time Limit Reached (32 sec)	On	On
Possible HV Circuit Damage	On	On
Device Parameter Reset	On	On
Backup VVI	On	On

Patient Notifier Delivery

Vibration Duration	6 sec
Number of Notifications	4
Time Between Notifications	10 hours

Episode Triggers

Atrial Episode (AMS)	Low
VT (Detection)	High
VF (Detection)	High
PMT	Off
Noise Reversion	Off
Magnet Response	Low

Stored EGM Configuration

VT/VF EGM Max Duration	1 min
VT/VF Pre-Trigger Max Duration	14 sec
Channels (Storage)	2 (22 min)
Channel 1	A Sense Amp
Channel 2	V Sense Amp

Wrap-up™ Overview

 **1 Alert**

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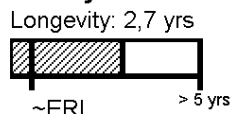
Patient

 Date of Birth 10 Mar 1944
 EF % Unknown

Indications for Implant

Implant Physician Kozak





Device	Manufacturer	Model	Serial	Implant Date
CRT-D A Lead RV Lead LV Lead	St. Jude Medical	Unify™ 3235-40	9867222	11 Feb 2020

Battery

 Last Max Charge 2,4 sec (Therapy)
 Battery Current 27 uA
 Remaining Capacity to ERI 56%

Longevity estimate is based on patient history

Test Results 8 Mar 2022

 Automatic

	Capture	Sense	Lead Impedance
A	Not Performed	Not Performed	360 Ω (Bi) 
RV	Not Performed	Not Performed	360 Ω (Bi) 
LV	Not Performed		380 Ω (LVT-RVC) 
HV			30 Ω (RV to SVC & Can) 

Parameters

	DDDR	Zone Configuration	VT	VF
Mode	DDDR	Zone Configuration	VT	VF
Base Rate	▶ 75 bpm	Detection Criteria	171 bpm	200 bpm
Max Track Rate	110 bpm	Therapy (ENABLED)	ATP x3	ATP x1
Paced AV Delay	180 ms		25,0 J	36,0 J
Sensed AV Delay	150 ms		36,0 J	40,0 J
Ventricular Pacing	LV → RV, 60 ms		40,0 J x2	40,0 J x4

Programming Changes

	Initial	Final
Base Rate	85 bpm	▶ 75 bpm

Alerts


LV. Lead Type is Uncoded

- ▶ Manual-programmed
- ↳ Auto-programmed