

Patient Report (3DMP full)

Premier Heart, LLC

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Test Patient

ID: 32104 **Name:** Test Patient **Gender:** M **Client ID:** 110011 **Age:** 40

Privacy Notice:

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3DMP Test Results

Test ID	Testing Date	ECG Quality	Local Ischemia	Global Ischemia
1261825	2005-03-12 01:43:57	Undescribed	None	None

Disclaimer:

Clinical studies have shown that 3DMP™ has a sensitivity of 90+% with 7±2% false negative results and a specificity of 85+% with 15±3% false positive results in detecting ischemia due to coronary artery disease (CAD). A positive CAD ischemia result does not guarantee that the subject has the disease, and a negative CAD ischemia result does not guarantee that the subject does not have the disease.

3DMP™ analysis has the following detection rates for coronary arterial plaque luminal encroachment levels:

40–50% encroachment	75% detection rate
50–70% encroachment	90% detection rate
>70% encroachment	96% detection rate

3DMP™ assumes that the subject has normal or corrected serum electrolyte chemistry and complete blood count (CBC). It also assumes that the subject has no structural anomalies of the myocardium. If these laboratory test results are unknown, dated, or abnormal at the time of this test, the results may be skewed.

¹Local Ischemia: regional or patchy myocardial ischemia caused by mid- or distal single or double vessel coronary artery disease (CAD).

²Global ischemia: diffuse myocardial ischemia caused by proximal large vessel (usually two vessel or more are pathological) CAD, and/or microvascular disease affecting the entire myocardium.

Suggestions

Disease severity:

	Test	Severity
1261825	2005-03-12 01:43:57	0 : none

Disease Severity Range:

0 = x	No disease burden
0 < x <= 2	Mild disease burden
2 < x <= 4	Moderate disease burden
4 < x <= 5.5	Level 1 severe (moderately severe)
5.5 < x <= 7.5	Level 2 severe (severe)
7.5 < x <= 15	Level 3 severe (very severe)
15 < x	Level 4 severe (extremely severe)

Secondary results (pathological conditions):

- Myocardial Damage
- Ventricular Hypertrophy
- Cardiomyopathy
- Pulmonary Heart Disease
- Fibrillation (likely atrial).
- Ventricular arrhythmia.
- Myocarditis or Myocardial Inflammation
- Rheumatic Heart Disease or remnants thereof
- Congenital Heart Disease or remnants thereof

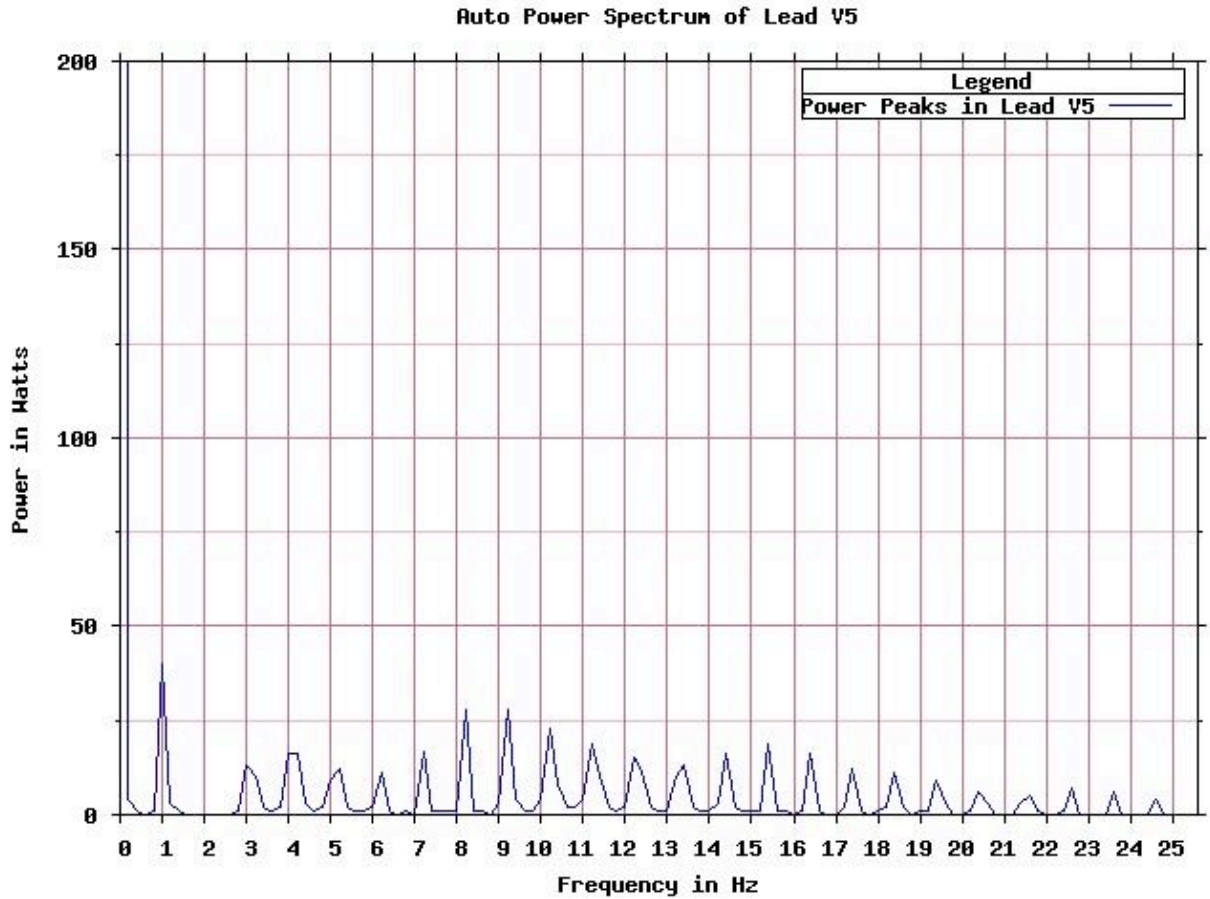
Tertiary results (physiopathological conditions):

- Myocardial remodeling.
- Decreased myocardial compliance. Likely causes include ischemia, ventricular hypertrophy, increased afterload, systemic hypertension.
- Increased myocardial compliance. Likely causes include ischemia, myocarditis, structural anomalies, cardiomyopathy.
- Decreased cardiac output reflected by decreased ejection fraction.
- Bradycardia
- Tachycardia
- Acute Power Failure. Likely conditions are ischemia heart disease, pump failure, supply and demand imbalance.
- Global asynchrony
- Regional or localized asynchrony

Disclaimer: This section contains comments and suggested diagnoses or conditions which require rigorous clinical validation. These suggestions and comments should be considered expert opinions and not a definitive diagnosis.

Auto Power Spectrum of Lead V5

TES09748 (tests: 2005-03-12 01:43:57)



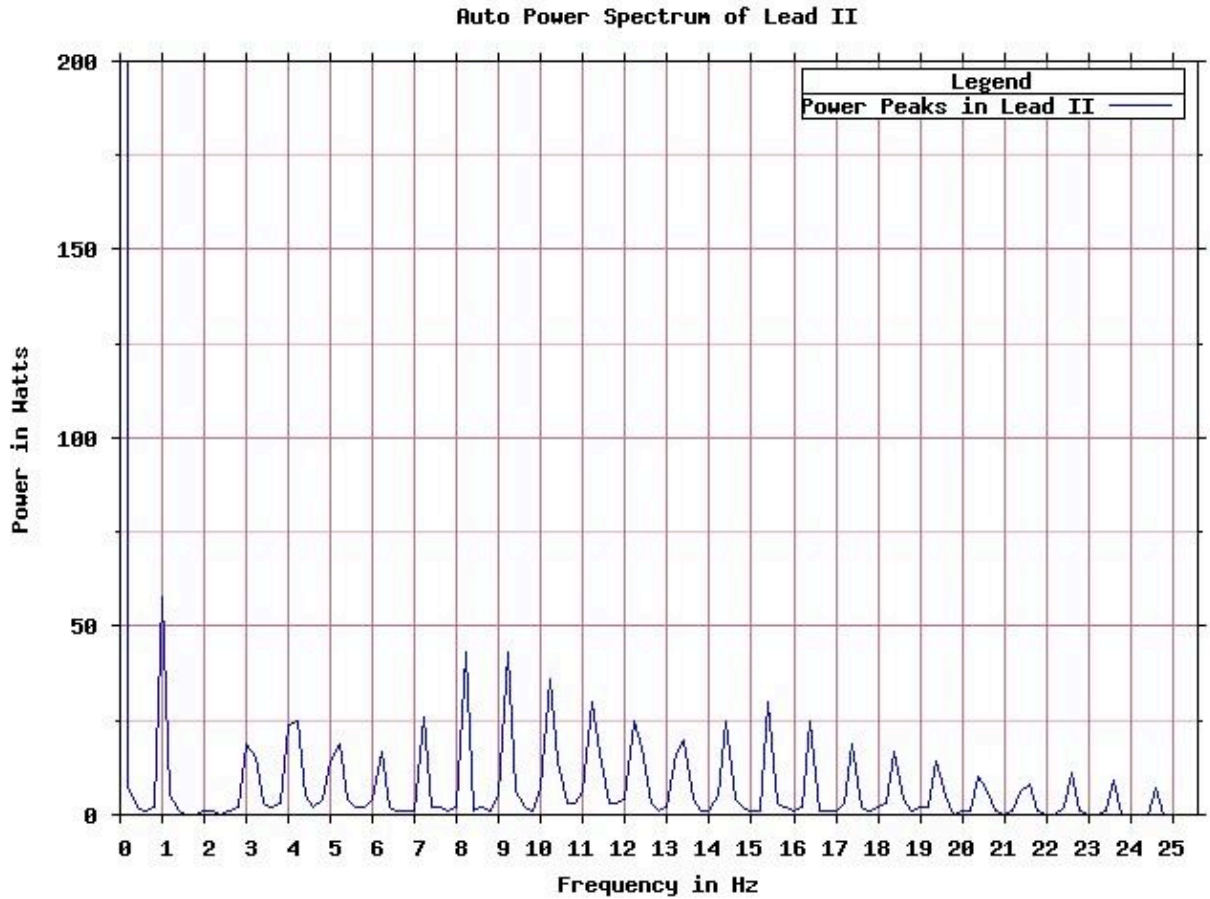
1/2	O	U1	U2	U3	U3xy	U4	N1	N3	S	SS	F	FF	A1	A2	A3	A4	A5	A55
-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-

Legend

S: Bradycardia; S: <60 bpm.

Auto Power Spectrum of Lead II

TES09748 (tests: 2005-03-12 01:43:57)



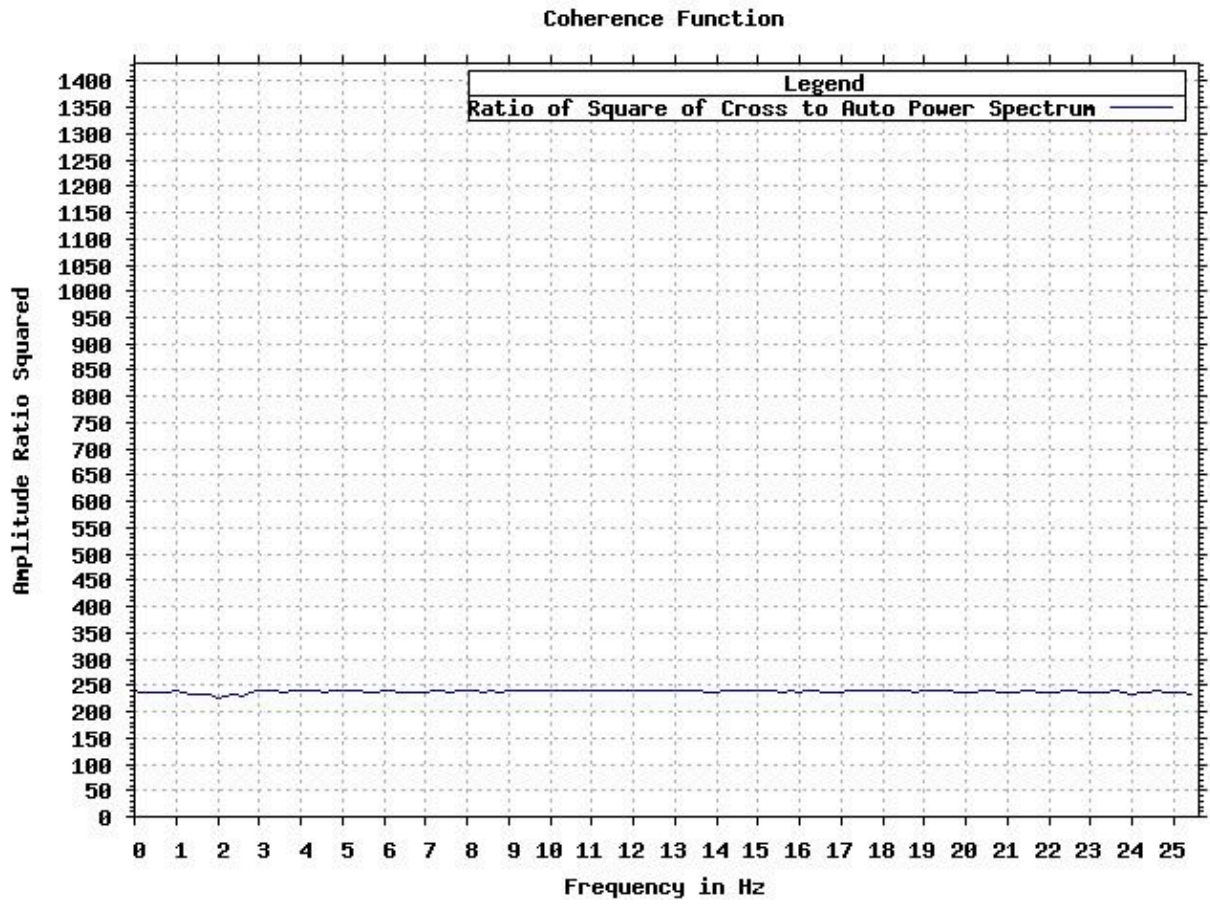
1/2	O	U1	U2	U3	U3xy	U4	N1	N3	S	SS	F	FF	A1	A2	A3	A4	A5	A55
-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-

Legend

S: Bradycardia; S: <60 bpm.

Coherence Function

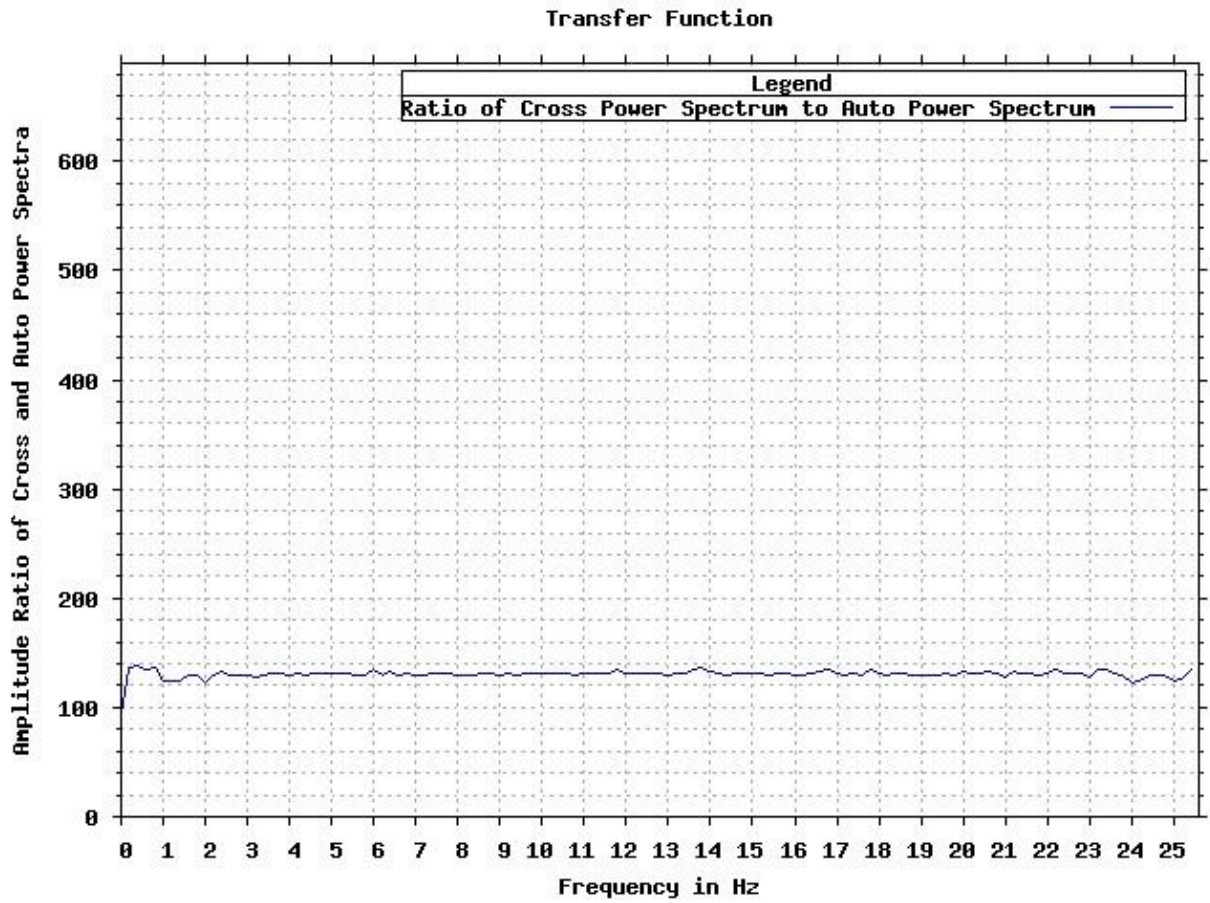
TES09748 (tests: 2005-03-12 01:43:57)



Q1	Q2
-	-

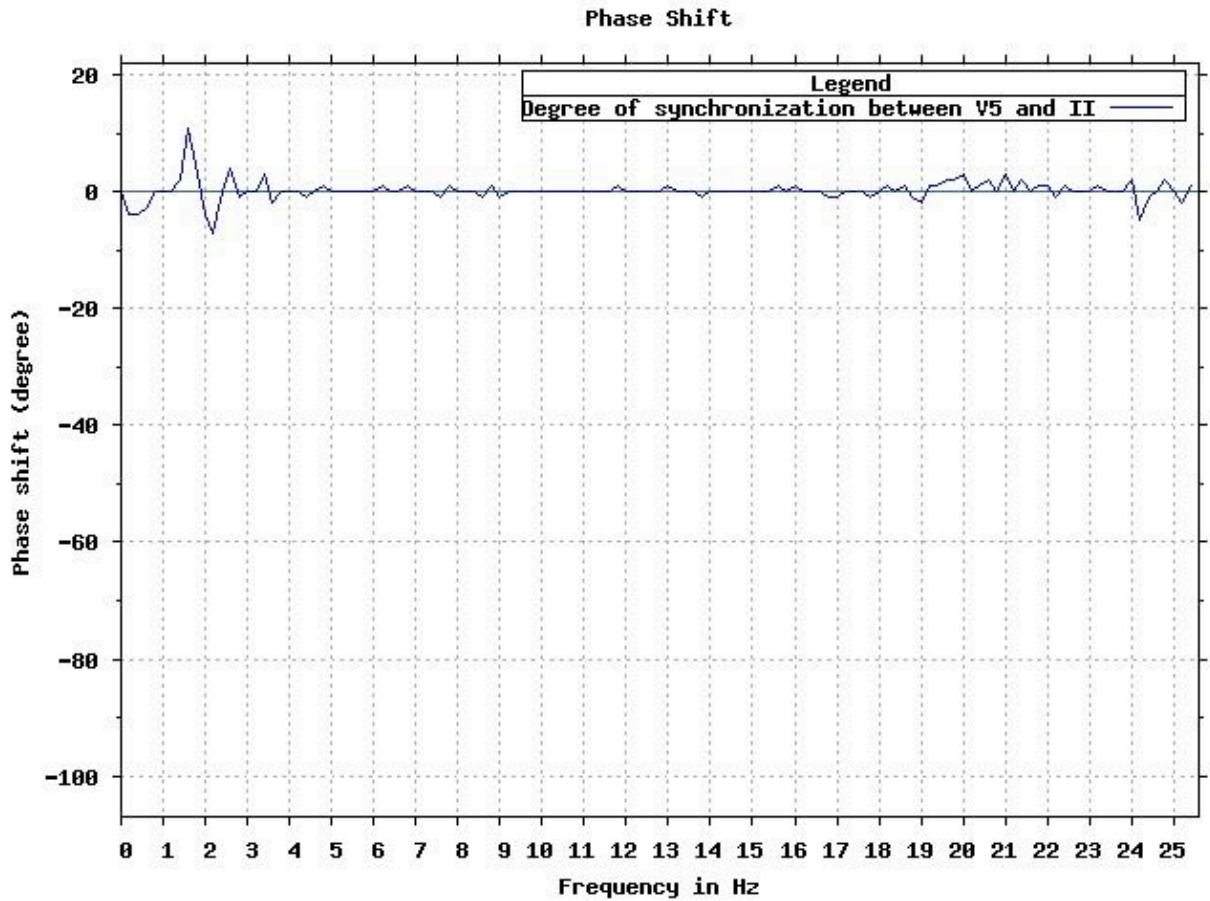
Transfer Function

TES09748 (tests: 2005-03-12 01:43:57)



Phase Angle Shift

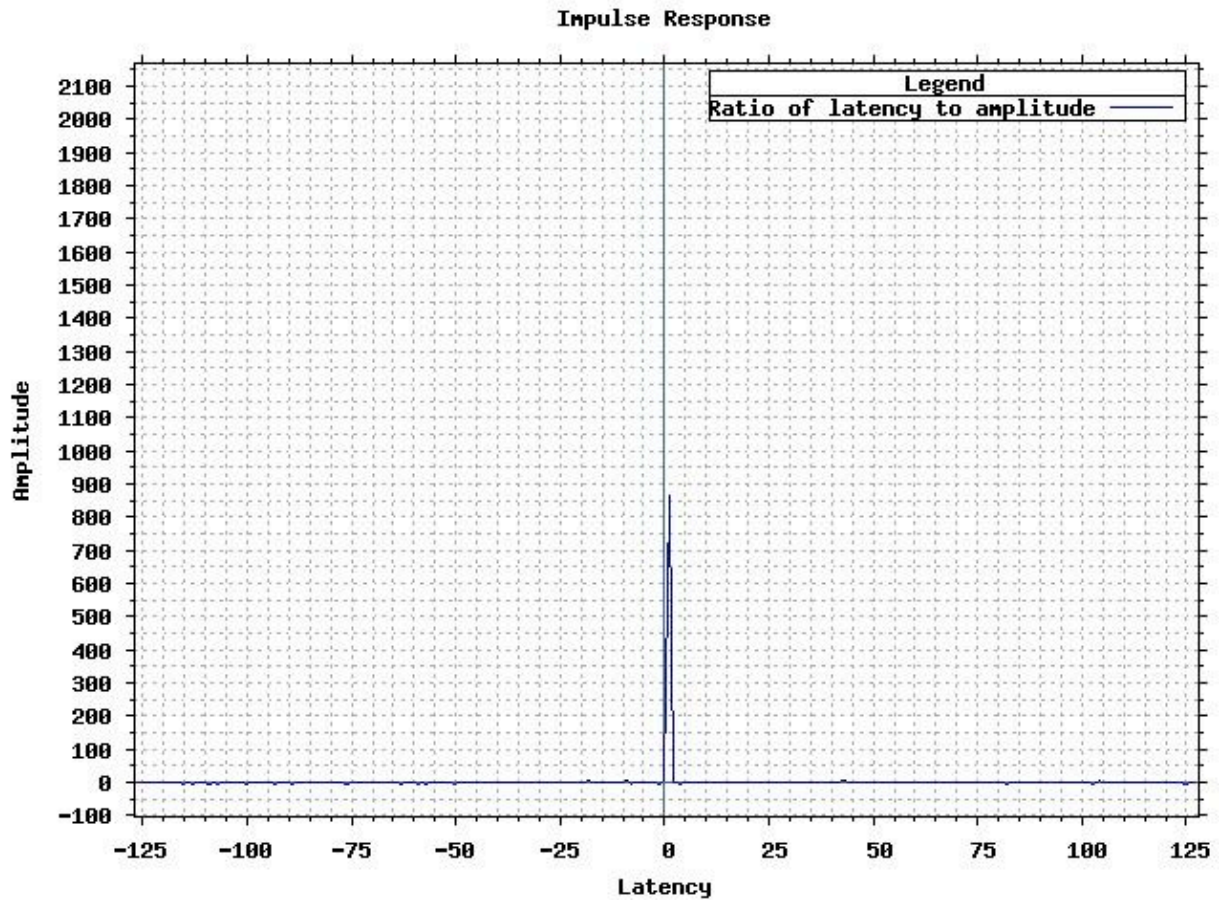
TES09748 (tests: 2005-03-12 01:43:57)



P+	P-	WW	PWW+	PWW-	L
-	-	-	-	-	-

Impulse Response Function

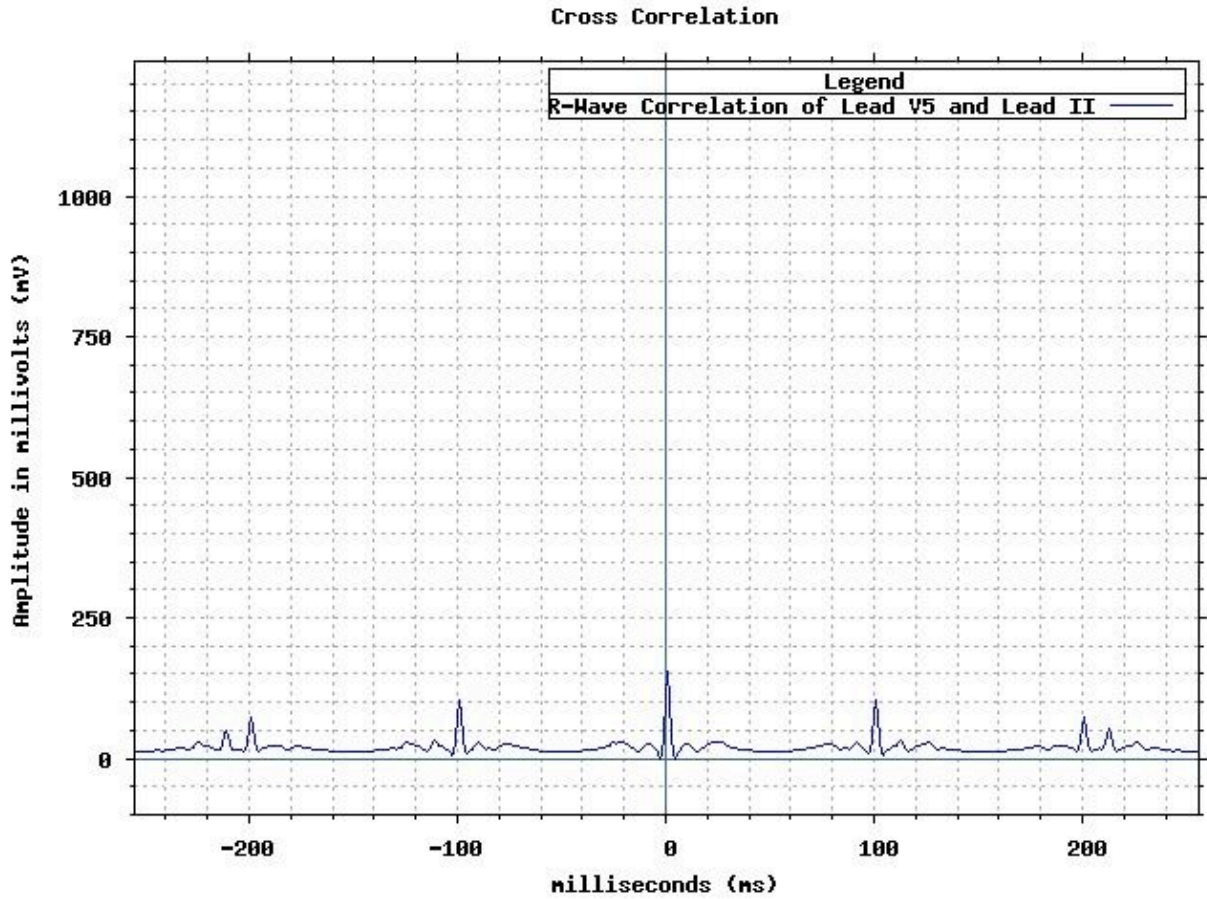
TES09748 (tests: 2005-03-12 01:43:57)



D1	D2	f	M1	M3	M2	M4
-	-	-	-	-	-	-

Cross Correlation

TES09748 (tests: 2005-03-12 01:43:57)



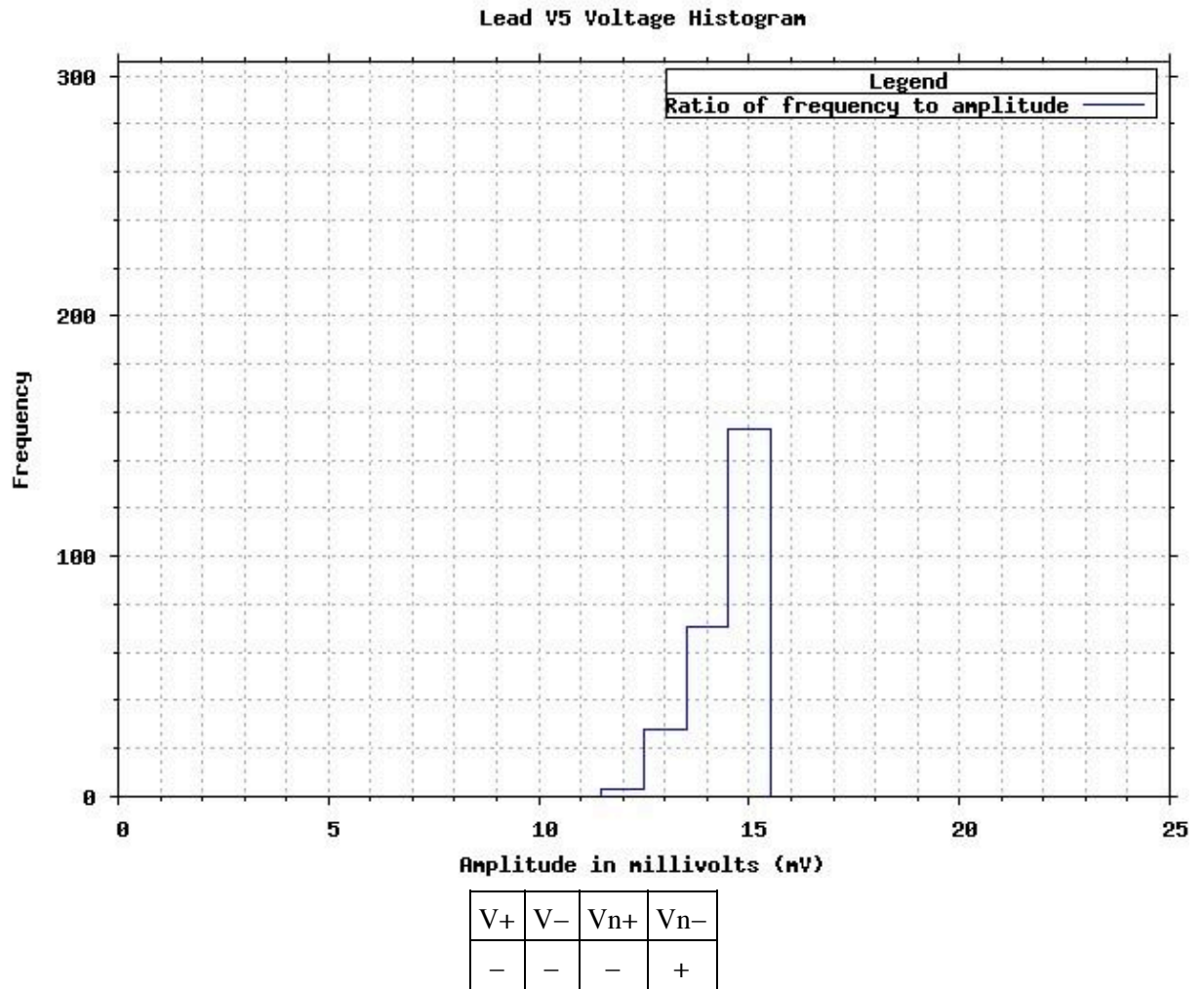
rrr	RRR	r	R	rr	RR	rR	R+	R-	RW+	RW-	pt	PT	Rn
-	-	+	-	-	-	-	-	-	-	-	-	-	-

Legend

r: Individual difference without clinical meaning.

Amplitude Histogram V5

TES09748 (tests: 2005-03-12 01:43:57)

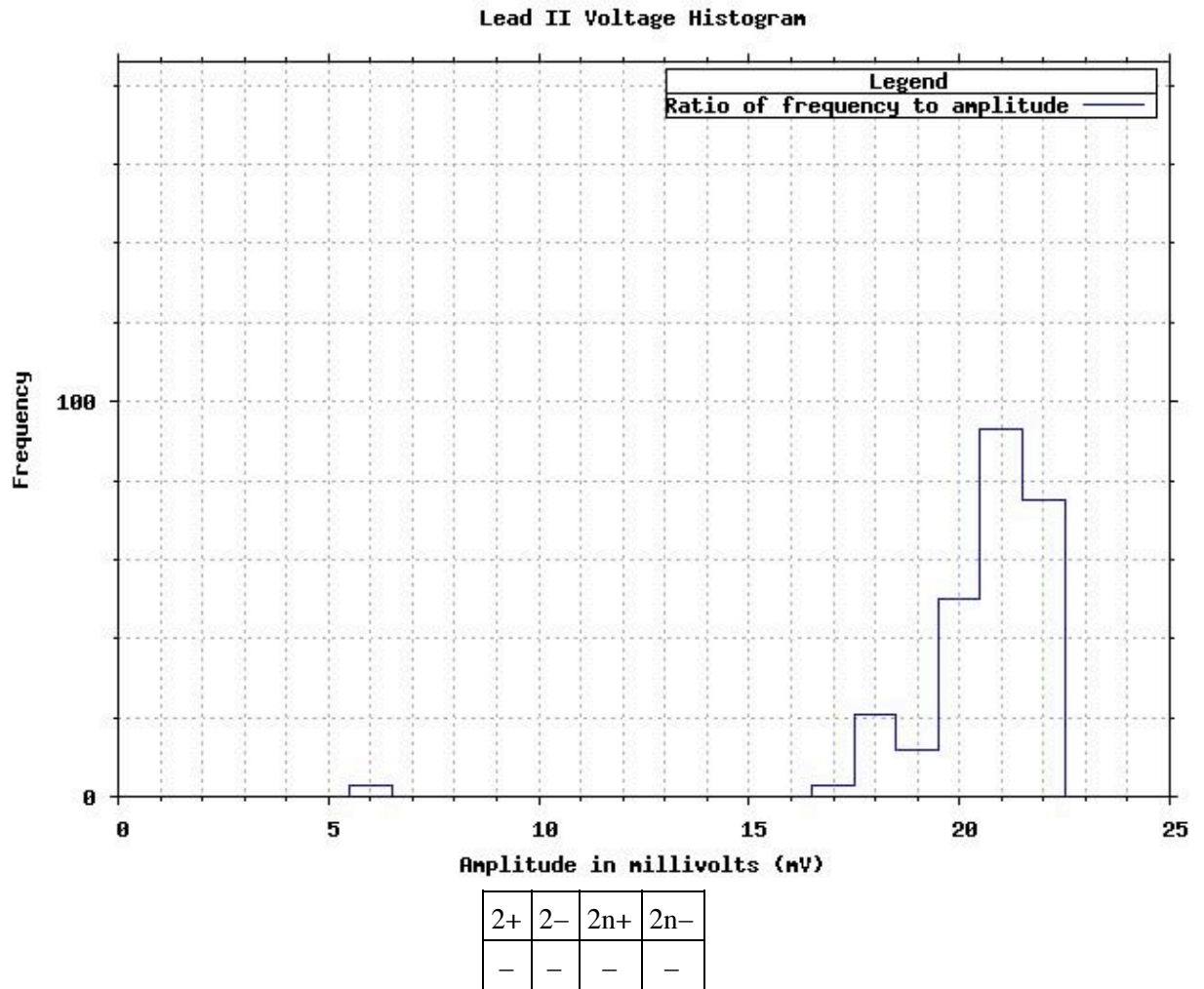


Legend

Vn-: Small number of recorded events in the histogram; reflects chronic heart dysfunction for > one year.

Amplitude Histogram II

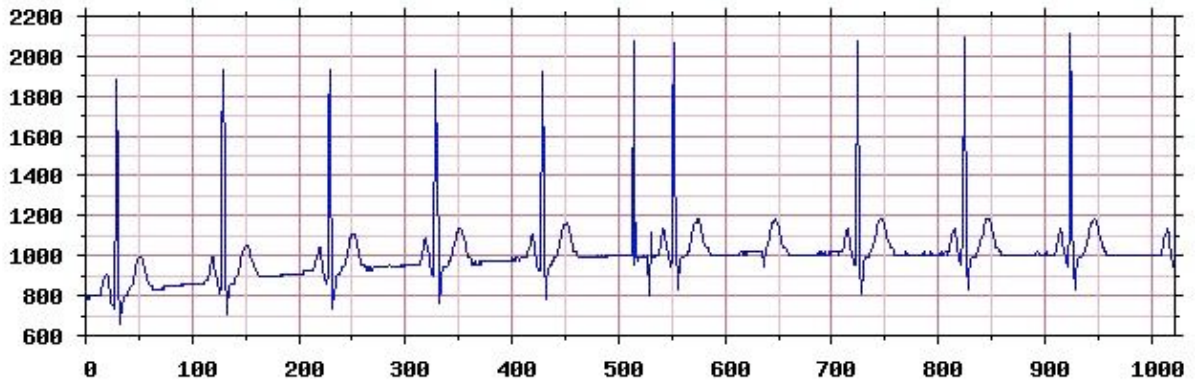
TES09748 (tests: 2005-03-12 01:43:57)



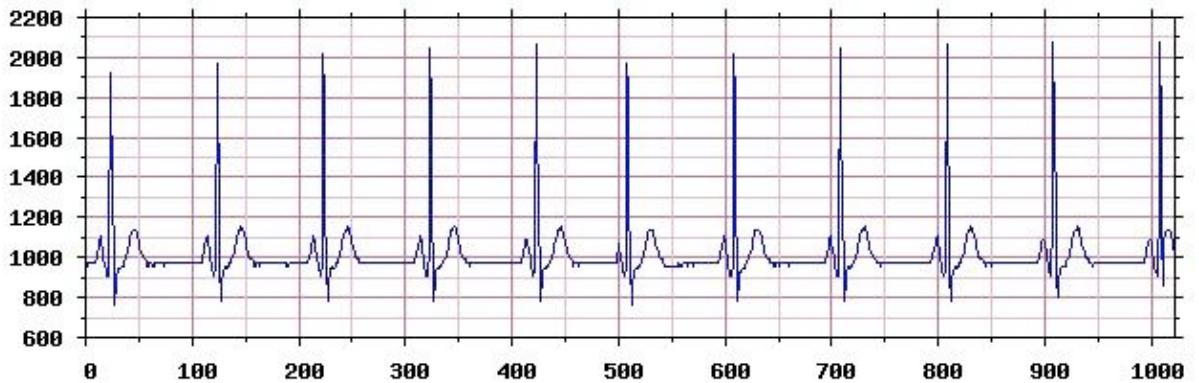
ECG Trace: Test 1261825

Lead II

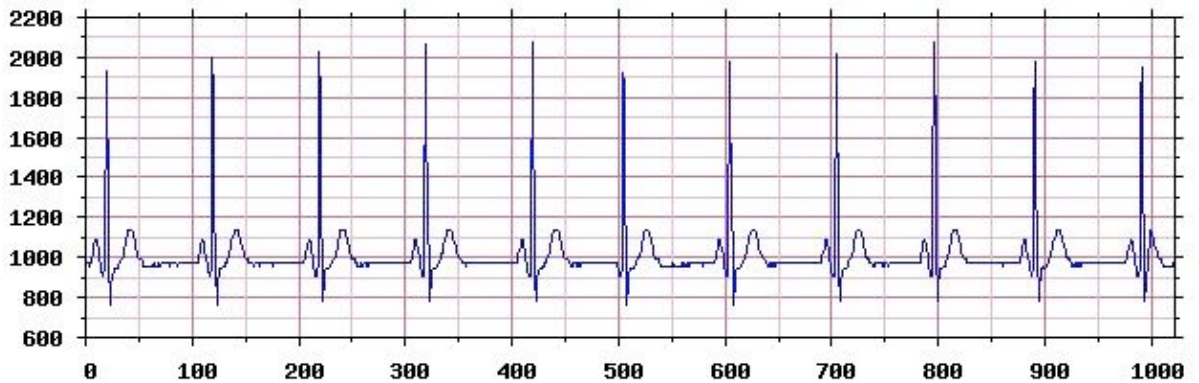
Segments 1 (0 ns) to 2 (5120 ns)



Segments 8 (35840 ns) to 9 (40960 ns)

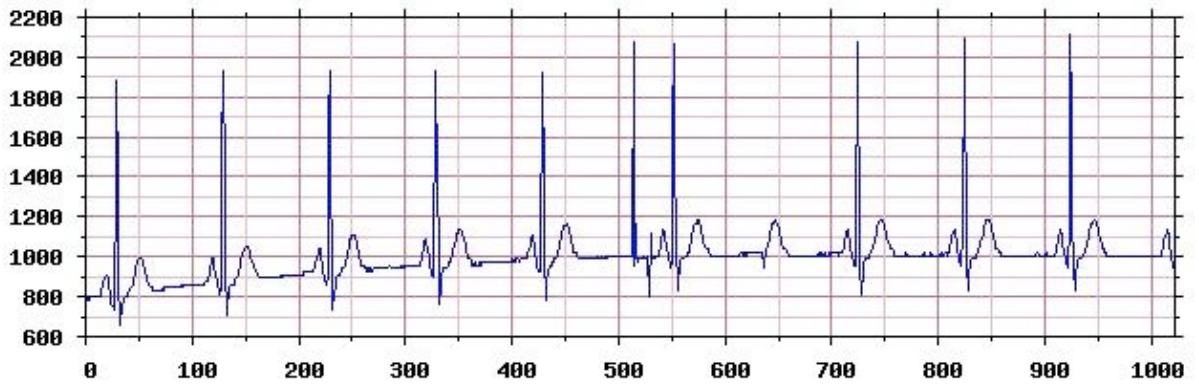


Segments 15 (71680 ns) to 16 (76800 ns)

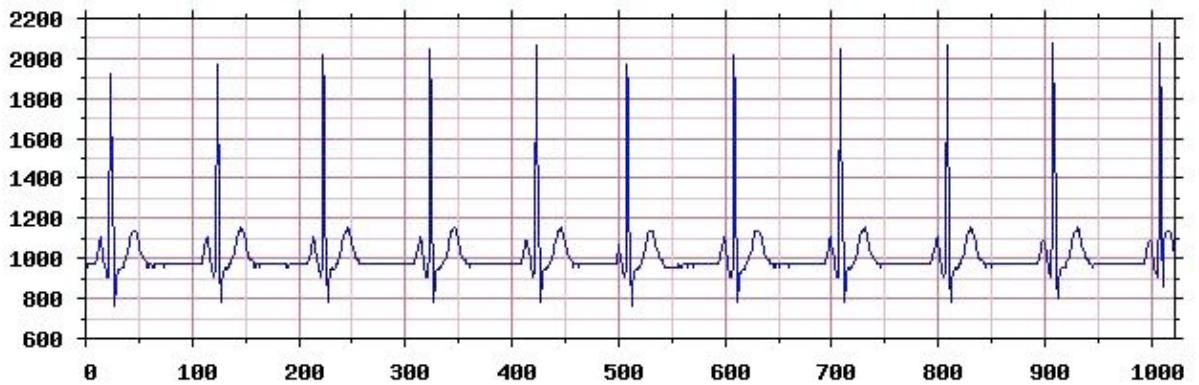


Lead V5

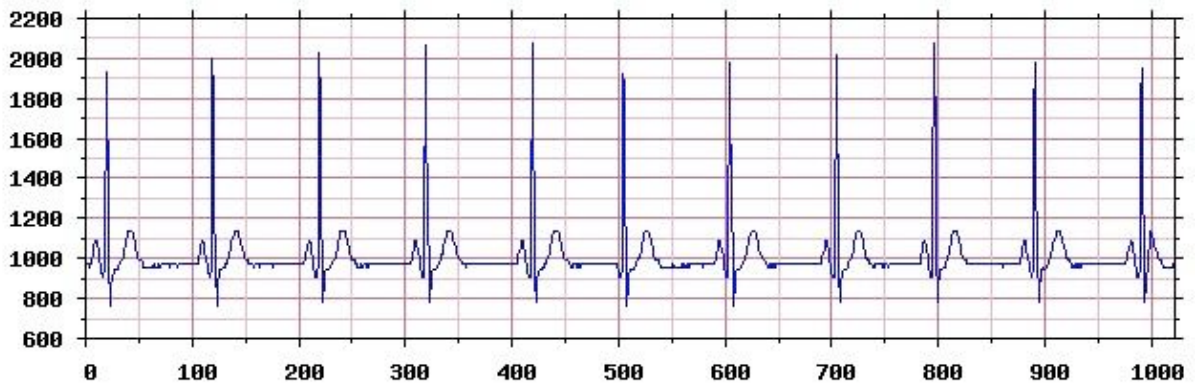
Segments 1 (0 ns) to 2 (5120 ns)



Segments 8 (35840 ns) to 9 (40960 ns)



Segments 15 (71680 ns) to 16 (76800 ns)



About 3DMP™

3DMP™ is a new, web-based, non-invasive diagnostic tool for aiding your physician(s) in diagnosing multiple types of heart disease, including coronary artery disease (CAD). It adopts the principles of Systems Analysis in mathematically analyzing the digitized resting electrocardiograph (ECG) data from leads V5 and II simultaneously.

The results of the mathematical calculations are graphically represented as an auto power spectrum and its variations: phase shift, impulse response, coherence function, cross correlation and amplitude histogram. Collectively, these mathematical transformations supply various aspects of the electromechanical properties of the heart muscle in relationship to the physiological properties of the blood and its impact on the myocardial functions as a whole.

The abnormal "Ischemia Indexes" derived from each of these six functions are integrated into a mathematical pattern which represents the myocardium as a whole system which is used for complex pattern recognition. The computer statistically matches each individual's transformation set to the patterns of a large population consisting of thousands of healthy people and tens of thousands of people with heart diseases collected from years of clinical research, software development, and database collections. The computer analysis is then reported to a physician who determines the final diagnosis and therapeutic recommendations, if required.

According to our peer reviewed published (and as yet other unpublished) prospective and double blind trial data from over 1,200 patients undergoing coronary angiograms:

- Among those who have more than 40% but less than 50% coronary artery atherosclerotic plaque luminal encroachments in single or multiple vessels, 3DMP™ detection rates at approximately 75%
- Among those who have more than 50% but less than 70% coronary artery atherosclerotic plaque luminal encroachments in single or multiple vessels, 3DMP™ detection rates at approximately 90%
- Among those who have more than 70% coronary artery atherosclerotic plaque luminal encroachments in single or multiple vessels, 3DMP™ detection rates at approximately 96%
- There are roughly 15(±3)% false positive cases which include:
 1. Coronary artery vasospasms; Coronary Arteriopathy (connective tissue disorders, vaculitides or aneurysms)
 2. Microvascular disease (peripheral vascular disease)
 3. Aortic stenosis/regurgitation
 4. Hypertensive heart disease and metabolic disorders
 5. Renal disease, (i.e. end stage renal disease)
 6. Poor quality ECG tracings
- There are about 7(±2)% false negative cases which include:
 1. Well-established coronary collateral circulations with visibly poor coronary angiogram results
 2. Coronary angiogram results showed moderate luminal encroachments, however, the 3DMP™ test was negative.
 3. Poor quality ECG tracings

Finally, unlike the primary diagnosis of the presence or absence of local or global ischemia, the secondary findings of each test (such as MI, LVH, arrhythmias, etc) should be considered as a reference or an expert's opinions rather than definitive diagnosis. This is due to these findings requiring additional controlled, prospective and double blind studies for validations. The ultimate treatment decisions are between you and your physician(s).

For more details on 3DMP™ analysis, please visit <http://www.premierheart.com/webapp/tech.php> .