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Report

HHP Massage Mattress
Characterization of accelerations

1. *Index*

2. *Summary*

HHP developed a new prototype of an oscillating massage mattress. The accelerations produced by this mattress is to be characterized in its working regimes, both in no-load and in loaded circumstances, and to be checked with regulations.

3. *Protocol*

Eight accelerometers are used to measure the accelerations of the mattress: a tri-axial accelerometer (PCB 356B21) and 3 uni-axial accelerometers (PCB 333B32) inside the mattress (attached to the housing of a motor with unbalance), and 4 light-weight uni-axial accelerometers (PCB 352A56) at the interface between the mattress and the test subjects.
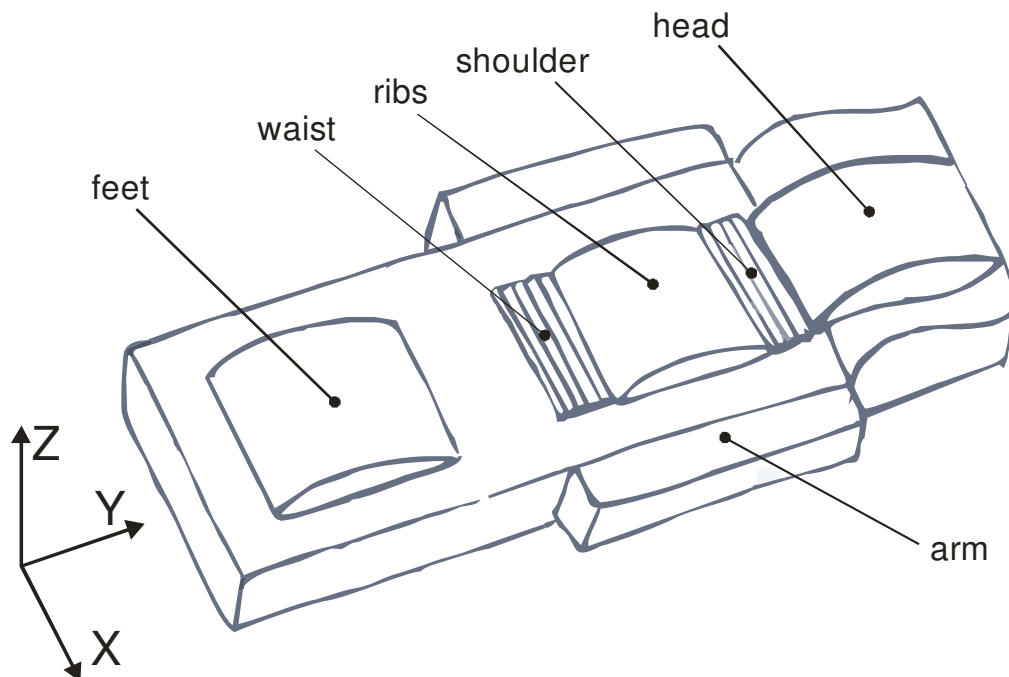

Figure 1: Definition of the zones and the coordinate system

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Table 1 : Positioning of accelerometers

Name	Position	Direction	Zone
Acc1	Inside	Z	Shoulder
Acc2	Inside	XYZ	Waist
Acc3	Inside	Z	Feet
Acc4	Inside	Z	Arm
Acc5	Outside	Z	Head
Acc6	Outside	Z	Shoulder
Acc7	Outside	Z	Hip
Acc8	Outside	Z	Feet

The accelerometers are connected through an ICP signal conditioner (PCB 442C04) to a multifunction data acquisition card (NI 6251 PXI) in a PC running a custom build LabVIEW program. The data have been collected at an acquisition rate of 2 KHz during 40s. Care was taken to separate the electrical circuits of the Massage Mattress and the Data Acquisitioning Setup (ICP signal conditioner and PC).

For each vibrating zone of the mattress, 21 measurements were performed to describe the vibration characteristics of the mattress for each combination of intensity (1 to 7) and added weight (2, 4 or 6 kg). Additionally 7 measurements were performed with no weight added.

Furthermore 24 measurements were performed with 3 test subjects (60, 72 and 86 kg) at the 7 available intensities (gradually increasing the intensity of all zones, except the head zone, and an additional measurement with the head zone at maximal intensity, noted in the raw result tables as 'intensity 8').

To supply information about the rib and arm zone, the accelerometers of the head was moved to the arm and the accelerometer of the feet was moved to the rib zone. An additional series of 7 tests on a test subject of 72 kg was performed with this new configuration.

Data processing was done in Matlab by filtering the data (using either a low pass Butterworth filter at 250Hz or the frequency weighting according to ISO2631-1), and subsequent calculation of PSD (using a 32nd order Yule-Walker method for estimation of the frequency components) and of the acceleration characteristics (root-mean-square, peak-to-peak, Crest Factor, A(8), VDV, eVDV).

4. Results

The complete set of results is included in the appendix. In this section, some highlights of the results are presented.

4.1 Zone characteristics

4.1.1 Frequency content
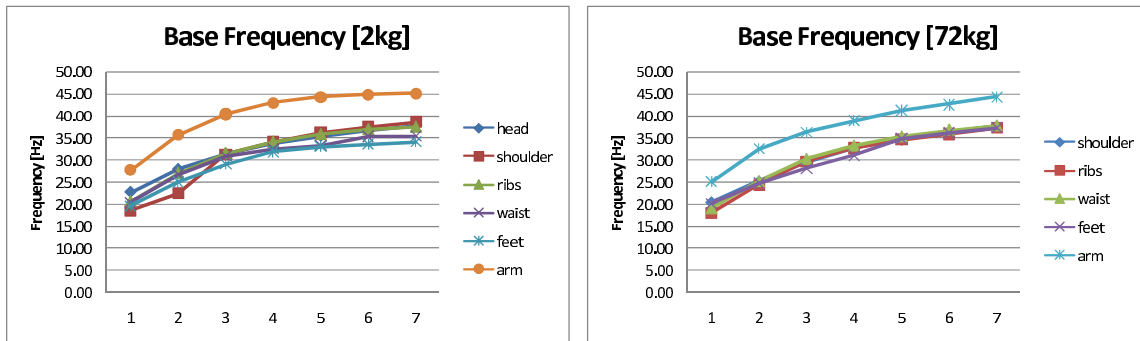
Figure 2: Base frequencies for the acceleration from the different zones (left: results with a load of 2 kg; right:results with a subject of 72kg)

From the resemblance of the results with a load of 2 kg and with a subject of 72 kg (Figure 2), it can be seen that the frequency content is independent of the load carried by the mattress. Most of the vibrating zones produce acceleration signals with the same base frequency, except the arms where a significant larger base frequency was found.

It is noted that the measured frequencies do not correspond with the frequencies that can be read from the control box (20Hz at intensity 1 up to 80Hz at intensity 7). The frequency content of the acceleration signals contains however multiple harmonic components. These harmonic frequency components can sometimes even be stronger than the base frequency itself (Figure 3).
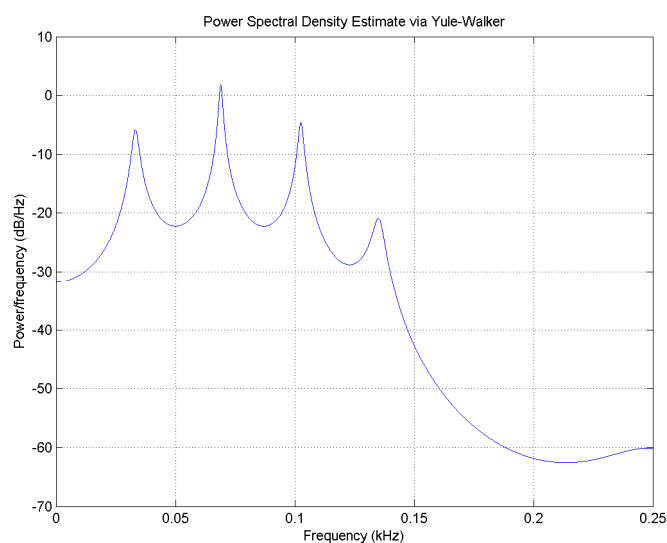
Figure 3: Frequency content of the measured acceleration along the Z-axis at the waist (intensity 5)

4.1.2 Acceleration components

At the waist zone a tri-axial accelerometer is placed inside the mattress (attached to the housing of a motor with unbalance). This allows us to look at the X, Y and Z component of the acceleration produced at the waist zone.
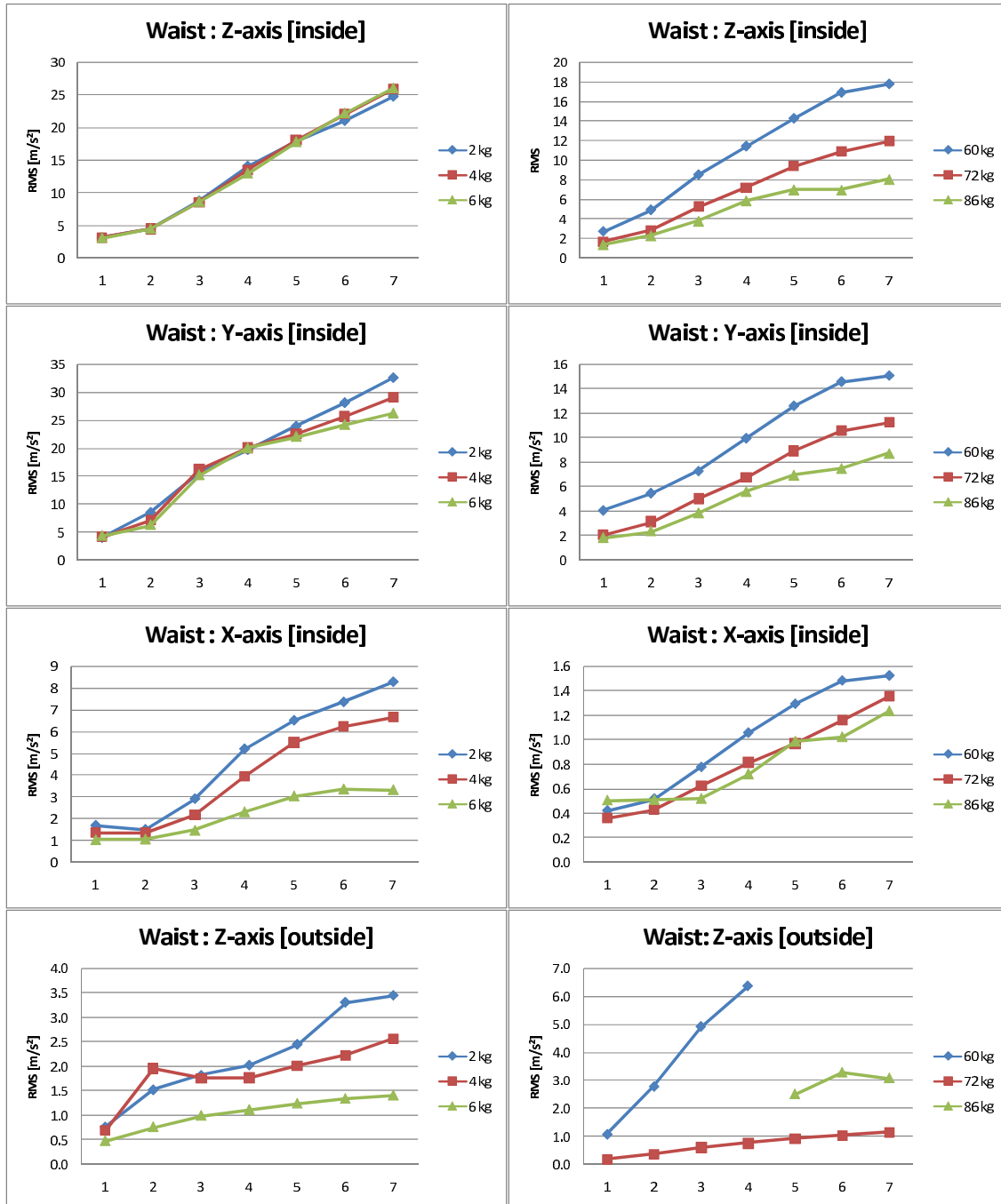
Figure 4: Frequency components of the acceleration at the waist (first row: Z-axis inside the mattress; second row: Y-axis inside the mattress; third row: X-axis inside the mattress; last row: Z-axis on top of the mattress)

From the results (Figure 4) it is clear that the motor mainly produces vibrations along the Z-axis (vertical) and the Y-axis (longitudinal), in lesser amounts also along the X-axis

(transversal). This is to be expected as there is no second unbalance to compensate the vibrations in the Y-direction, and the unbalance is situated at one end of the housing (no second unbalance at the other side of the housing), causing rotations of the housing, which in turn result in vibrations along the X-axis). The results point out that there was sometimes a problem with the wiring of the sensor underneath the test subjects, causing unreliable signals. This was the case for subject 1 (60kg) at intensity 5, 6 and 7, and for subject 3 (86kg) at intensity 1 to 4. The results are therefore not included in the presented graphs. Nevertheless it can be seen that there is a lot of variation between the results of the test subjects. This variation cannot be explained by the difference in total body mass alone, and must also be dependent of body composition, differences in lying posture, …

4.1.3 *Vertical accelerations*
The vertical accelerations for the different zones are depicted in Figure 5 to Figure 16.

Figure 5: Vertical accelerations (RMS) for the head zone (weight tests)
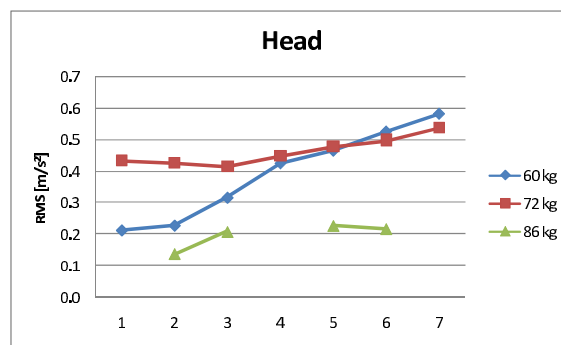
Figure 6: Vertical accelerations (RMS) for the head zone (subject tests)

The signal from the head zone accelerometer revealed some abnormalities (high peaks in the signals, resulting in high crest factors) for Subject 3 (86 kg) in some cases (intensities 1, 4 and 7). These results were not included in the corresponding figure (Figure 6). For the head zone it seems that adding 2 to 6 kg is comparable with the head weight from the subject tests.

Figure 7: Vertical accelerations (RMS) for the shoulder zone (weight tests)
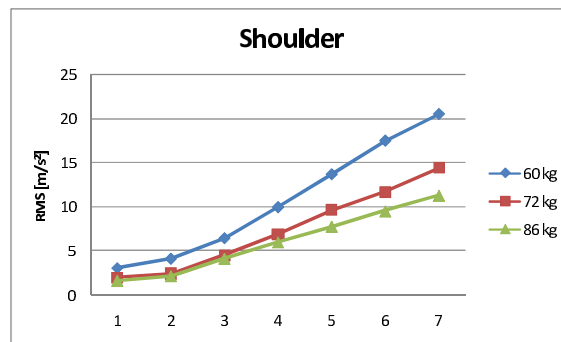
Figure 8: Vertical accelerations (RMS) for the shoulder zone (subject tests)

The results for the shoulder zone show large differences between the weight tests and the subject tests. It seems as if the mattress experiences almost no effect of the weight of the subject, as the RMS values of the subject tests are even higher than the results with 2 kg weight added. Furthermore it can be noted that the output vibration level drops drastically by adding 4 kg or more at the shoulder zone.

As already mentioned in the previous paragraph, the waist zone exhibits large differences in vibration output for the different test subjects (although some of the experimental results had to be excluded because of anomalies in the signal). More tests need to be carried out to clarify the causes of this broad range in output.

Figure 9: Vertical accelerations (RMS) for the waist zone (weight tests)
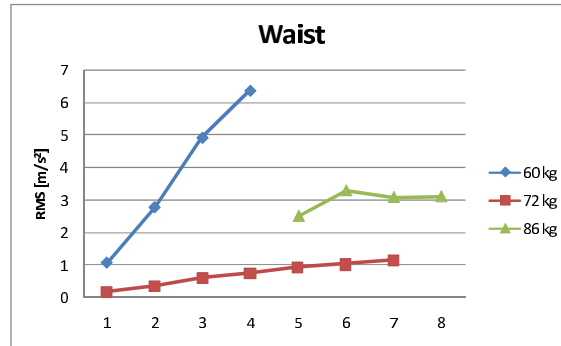
Figure 10: Vertical accelerations (RMS) for the waist zone (subject tests)

The results for the feet zone reveal a peak in the acceleration output level (Figure 11 & Figure 12), which is probably due to resonance phenomena.
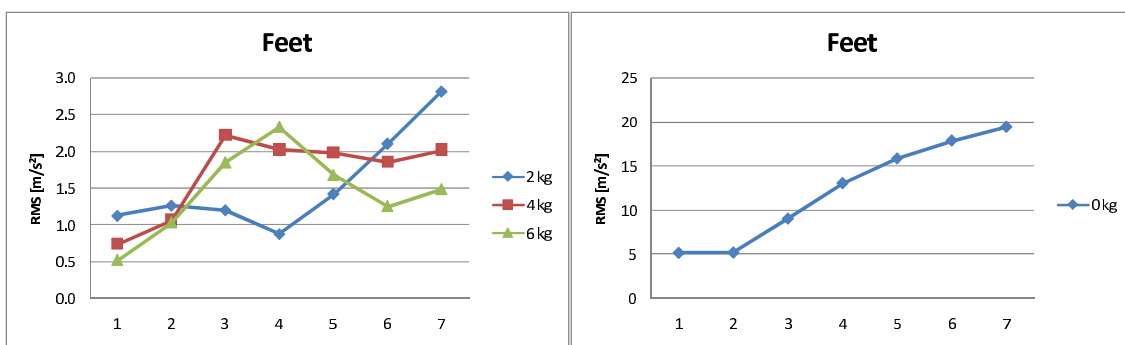
Figure 11: Vertical accelerations (RMS) for the feet zone (weight tests)
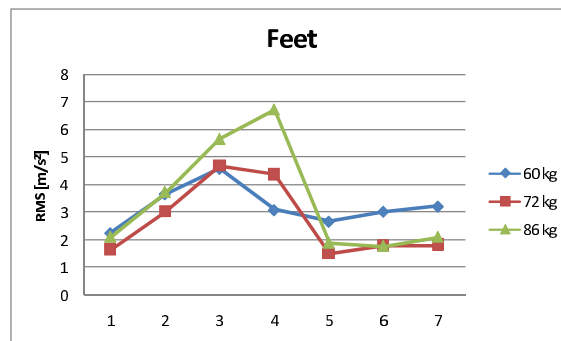
Figure 12: Vertical accelerations (RMS) for the feet zone (subject tests)

For the rib and the arm zone only one subject test (72 kg) is performed (as it involved a change in accelerometer configuration).

For the rib zone, the results of the subject test are comparable to the addition of 2 kg (Figure 13 & Figure 14), while the arm zone is almost not influenced by the weight of the subject (Figure 15 & Figure 16).
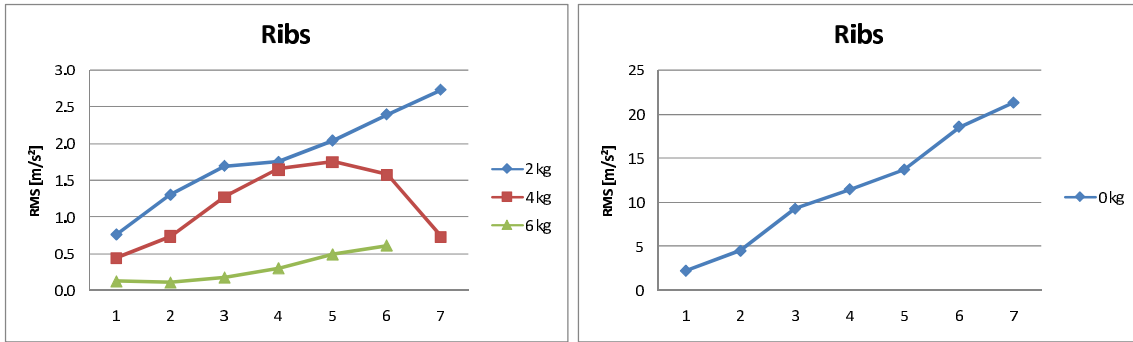
Figure 13: Vertical accelerations (RMS) for the rib zone (weight tests)
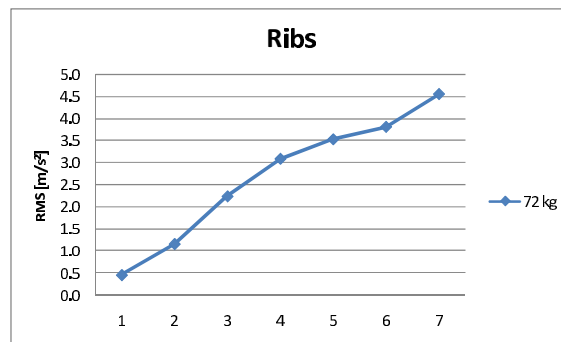
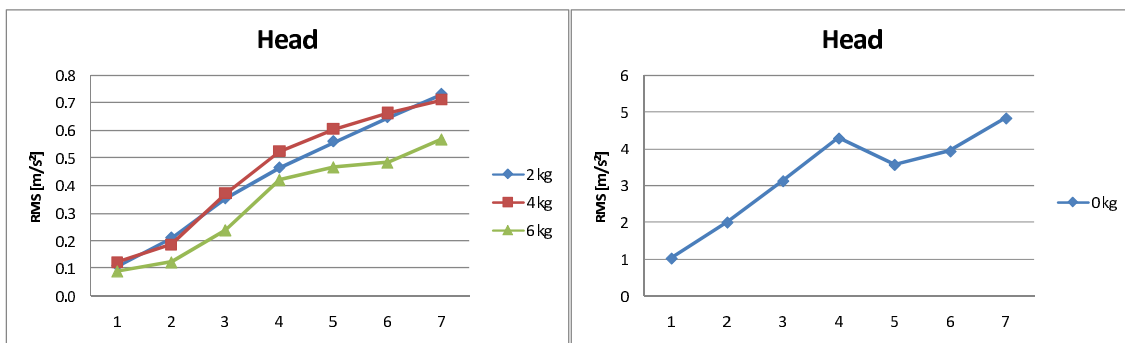*Figure 14: Vertical accelerations (RMS) for the rib zone (subject tests)*
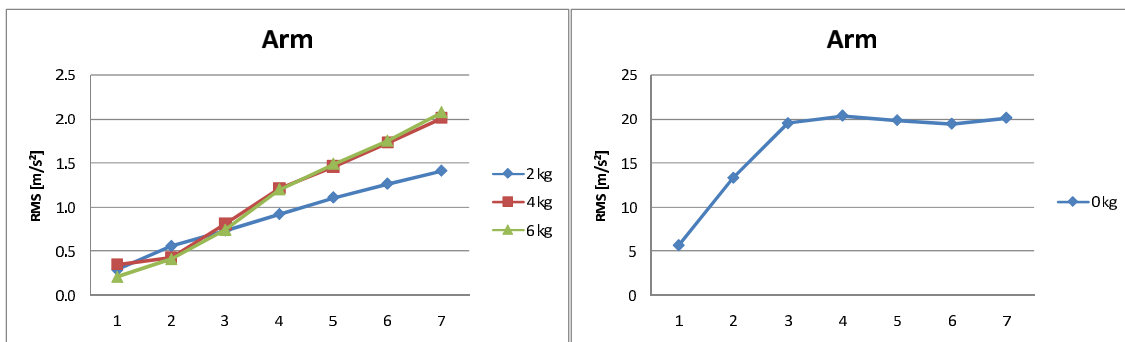
Figure 15: Vertical accelerations (RMS) for the arm zone (weight tests)

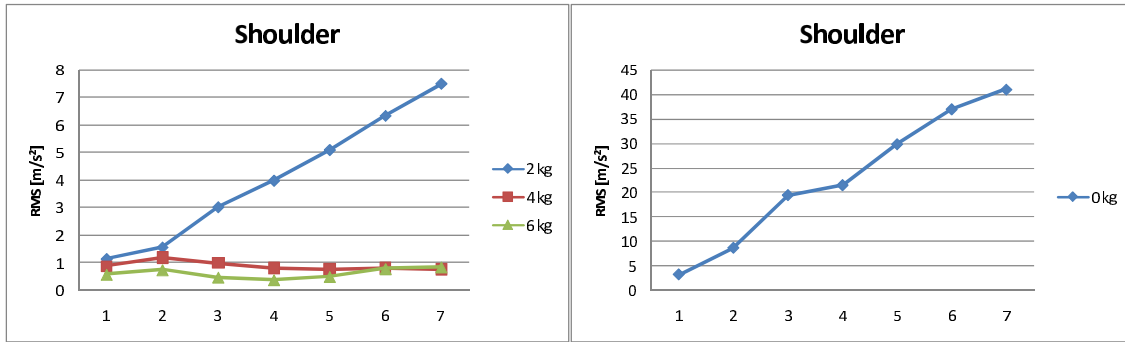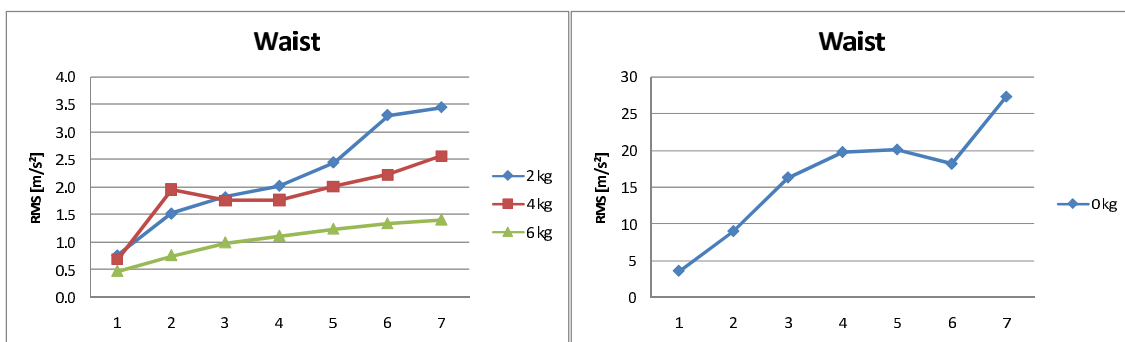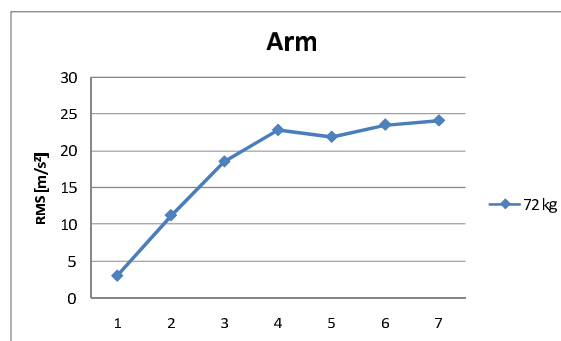*Figure 16: Vertical accelerations (RMS) for the arm zone (subject tests)*

4.2 Safety regulations

4.2.1 Introduction

Vibration and shock can damage the human body. However, it is far from obvious what type of damage will occur and what mechanisms are involved in the damage process, especially in the case of persons in a standing, reclining or recumbent posture. It is therefore not possible to state with any precision how the damage depends on the physical characteristics of the vibration and shock, the characteristics of the exposed person, or other aspects of the environment. Notwithstanding the incomplete understanding of the causes and nature of the injuries produced by whole-body vibration (WBV), the belief that occupational and leisure exposures to vibration can induce injury has led to various vibration standards.

The British Standard 6481 (1987) states that the primary quantity for expressing vibration magnitude is the weighted root-mean-square acceleration (frequency weighting is done to obtain a single value from multiple frequency or random vibration). However, it indicates that r.m.s. magnitudes will underestimate some motions which are intermittent or contain occasional high peak values, where the vibration dose value (VDV) must be used. As this is not the case with the massage mattress, the r.m.s. method is used to evaluate the vibration exposure.

ISO 2631 (1997) is applicable to motions transmitted to the human body as a whole through supporting surfaces: the feet of a standing person, the buttocks, back and feet of a seated person or the supporting area of a recumbent person. It applies primarily to seated persons, since effects of vibration on the health of persons standing, reclining or recumbent are not known. The guidance is applicable to vibration in the frequency range 0.5Hz to 80Hz which is transmitted to the (seated) body as a whole (through the seat pan). It furthermore states that "The assessment of the vibration shall be made with respect to the highest frequency-weighted acceleration determined in any axis on the seat pan. When vibration in two or more axes is comparable, the vector sum is sometimes used to estimate health risk". Weighting and multiplying factors are not explicitly specified for recumbent persons in the ISO 2631 (1997) standard for health, as the health effects of whole-body vibration in recumbent posture are unknown. They are specified for comfort: W_k for vertical recumbent (except head), W_d for horizontal recumbent and W_j for vertical recumbent (head). They are also tentatively recommended in the BS 6481 as W_b (comparable to W_k from ISO2631) for vertical recumbent and W_d for horizontal recumbent vibrations (it is assumed that the head is never in direct contact with the full vibration magnitude).

The Member States of the European Union have agreed to the harmonization of certain "social provisions", including minimum standards for ensuring health and safety in workplaces. In 2002 Directive 2002/44/EC was adopted. This is known as the Physical Agents (Vibration) directive. It sets minimum requirements for the prevention of vibration-related ill health. The daily exposure action and limit values in the Directive are all specified as an 8-hour energy-equivalent frequency-weighted acceleration (known as A(8) value), although vibration dose value alternatives are given for WBV.

The A(8) parameter is defined as:

$$A(8) = a_{RMS} \cdot \sqrt{\frac{T}{28800}}$$

The WBV daily exposure action value (EAV) is 0.5m/s² A(8) (or VDV 9.1m/s$^{1.75}$); the WBV daily exposure limit value (ELV) is 1.15 m/s² A(8) (or VDV 21m/s$^{1.75}$). The daily exposure times required to reach the EAV (or ELV) can be calculated from:

$$T = \left(\frac{EAV}{a_{RMS}}\right)^2 \cdot 28800$$

The times required to reach the ELV for the waist zone, the shoulder zone and the rib zone are shown in Table 2, Table 3 and Table 4:

Table 2: Times [min] required to reach the ELV for the shoulder zone

	subject 1 60 kg	subject 2 72 kg	subject 3 86 kg	subject 4 72 kg
1	450.9	812.1	1124.2	1981.7
2	94.5	169.7	185.1	350.5
3	29.0	45.1	52.9	93.4
4	12.1	20.5	28.0	42.6
5	6.7	11.3	18.0	24.2
6	4.1	8.1	12.9	15.5
7	3.0	5.5	9.5	11.6

Table 3: Times [min] required to reach the ELV for the rib zone

	subject 1 60 kg	subject 2 72 kg	subject 3 86 kg	subject 4 72 kg
1	N.A.	N.A.	N.A.	2137.6
2	N.A.	N.A.	N.A.	373.2
3	N.A.	N.A.	N.A.	140.4
4	N.A.	N.A.	N.A.	87.0
5	N.A.	N.A.	N.A.	74.0
6	N.A.	N.A.	N.A.	67.6
7	N.A.	N.A.	N.A.	50.9

Table 4: Times [min] required to reach the ELV for the waist zone

	subject 1 60 kg	subject 2 72 kg	subject 3 86 kg	subject 4 72 kg
1	382.6	21244.7	N.A.	7849.2
2	69.7	4243.9	N.A.	839.3
3	29.9	1959.8	N.A.	330.9
4	21.1	1482.5	N.A.	233.2
5	17.3	1159.5	164.2	181.4
6	N.A.	1030.1	111.4	151.7
7	N.A.	880.4	133.6	138.7

It seems that the shoulder zone is the most limiting for the vibration exposure of test subjects, with only 3 minutes before the action value is reached for subject 1 (60 kg). However, it must be noted that, although they have the same body weight, there are huge differences between the findings of subject 2 and 4. Therefore it is recommended that more subject tests are carried out before general conclusions regarding the limiting aspect of the vibration exposure can be drawn. Furthermore there is still a lot of uncertainty on the possible negative effects of vibration on recumbent persons, resulting in lack of clarity in the legislation for the application of the vibration exposure limits to recumbent subjects.

5. References

[1] British Standards Institution (1987) BS 6841. Measurement and evaluation of human exposure to whole-body vibration.

[2] International Organization for Standardization (1997) ISO 2631-1. Mechanical vibration and shock – evaluation of human exposure to whole-body vibration – part I: general requirements.

[3] Griffin M.J., A comparison of standardized methods for predicting the hazards of whole-body vibration and repeated shocks. Journal of Sound and Vibration (1998) 215(4), 883-914.

[4] European Parliament and the Council of the European Union (2002). Directive 2002/44/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration). Official Journal of the European Communities, OJ L177, 6.7.2002, 13-9.

[5] Nelson CM and Brereton PF., The European Vibration Directive. Industrial Health (2005) 43, 472-479.

6. APPENDIX: raw results

6.1 Legend

Symbol	Unit	Explanation
Signal	-	Zone on the mattress
Dir	-	Direction of acceleration signal
W	kg	Weight added
I	-	Intensity setting
RMS	m/s²	Root Mean Square acceleration
P2P	m/s²	Peak-to-Peak acceleration
CREST	-	Crest factor
A8	m/s²	Energy Equivalent RMS for 8 hour period
eVDV	m/s$^{1.75}$	Estimated Vibration Dose Value
VDV	m/s$^{1.75}$	Vibration Dose Value
VDV8	m/s$^{1.75}$	Vibration Dose Value over 8 hour period
F1	Hz	1st (largest) resonance frequency
F2	Hz	2nd resonance frequency
F3	Hz	3rd resonance frequency
F4	Hz	4th resonance frequency
F5	Hz	5th resonance frequency
M1	dB	Magnitude of f1
M2	dB	Magnitude of f2
M3	dB	Magnitude of f3
M4	dB	Magnitude of f4
M5	dB	Magnitude of f5

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6.2 Zone characteristics

6.2.1 Zone: Head (outside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	0	0.02	0.03	4.28	0.00	0.06	0.06	0.30	0.0	97.3	59.1	260.5	333.1	-45.8	-55.9	-56.9	-103.1	-105.3
Z	0	1	1.02	1.68	4.07	0.04	3.60	3.39	17.57	24.1	71.7	102.8	265.0	338.0	-13.7	-16.7	-18.9	-72.3	-74.7
Z	0	2	2.00	2.79	5.12	0.07	7.05	6.55	33.94	26.3	73.2	268.5	337.7	953.4	1.6	-15.2	-77.0	-79.3	-85.4
Z	0	3	3.13	5.09	4.06	0.12	11.01	10.25	53.12	29.3	80.2	246.4	701.1	768.2	8.3	-11.3	-63.8	-71.7	-72.1
Z	0	4	4.29	7.06	4.02	0.16	15.09	14.89	77.16	30.1	87.4	118.5	243.6	312.3	8.8	-3.5	-15.6	-56.8	-59.1
Z	0	5	3.57	5.48	2.73	0.13	12.57	10.98	56.87	32.7	90.7	237.1	307.9	375.9	11.1	-5.1	-52.8	-55.3	-57.0
Z	0	6	3.93	5.93	3.15	0.15	13.85	11.90	61.63	33.3	95.5	123.9	243.0	313.5	11.8	-4.2	-21.2	-57.5	-60.1
Z	0	7	4.83	7.62	3.19	0.18	17.01	14.95	77.44	33.2	96.6	71.9	126.2	238.8	12.4	0.6	-13.4	-16.4	-59.7
Z	0	1	0.97	1.81	2.83	0.04	3.42	3.21	16.63	74.4	26.1	103.0	130.4	266.0	-11.5	-16.1	-18.0	-34.4	-77.5
Z	2	1	0.11	0.13	3.07	0.00	0.38	0.36	1.87	22.6	103.6	69.0	248.7	315.4	-30.4	-38.7	-39.7	-89.1	-91.4
Z	2	2	0.21	0.27	2.23	0.01	0.74	0.61	3.17	27.8	81.2	110.7	238.5	310.7	-18.6	-35.9	-42.5	-86.1	-88.9
Z	2	3	0.35	0.72	2.25	0.01	1.24	1.04	5.37	31.4	61.4	91.1	243.5	314.1	-11.6	-32.8	-35.9	-77.3	-79.8
Z	2	4	0.46	1.08	1.80	0.02	1.63	1.32	6.84	33.8	62.9	103.8	246.5	316.4	-2.9	-26.1	-39.2	-75.8	-78.1
Z	2	5	0.56	1.51	1.89	0.02	1.97	1.60	8.31	35.4	66.6	105.3	225.9	303.7	0.2	-24.4	-33.6	-79.2	-82.3
Z	2	6	0.65	1.76	2.00	0.02	2.28	1.91	9.87	36.7	72.2	109.6	213.1	471.5	-0.4	-23.9	-27.2	-75.4	-82.0
Z	2	7	0.73	1.99	1.94	0.03	2.57	2.16	11.21	37.7	75.1	113.0	215.0	283.5	5.1	-19.4	-20.6	-73.5	-76.1
Z	4	1	0.12	0.22	3.01	0.00	0.44	0.41	2.14	104.3	22.2	75.1	245.3	314.6	-28.5	-29.0	-33.9	-86.4	-89.0
Z	4	2	0.19	0.26	2.58	0.01	0.66	0.57	2.97	27.8	80.7	110.1	235.2	307.8	-20.2	-31.5	-34.6	-86.8	-89.7
Z	4	3	0.37	0.62	2.24	0.01	1.31	1.10	5.67	32.1	88.9	242.8	313.8	381.5	-9.8	-31.7	-77.3	-80.1	-81.9
Z	4	4	0.52	0.96	1.83	0.02	1.84	1.48	7.65	34.4	65.9	101.8	134.8	242.5	1.2	-22.8	-29.4	-44.9	-82.1
Z	4	5	0.61	1.35	1.94	0.02	2.13	1.79	9.25	36.2	70.1	104.8	248.6	316.0	0.5	-21.9	-31.4	-80.6	-82.9
Z	4	6	0.66	1.49	1.96	0.02	2.33	1.94	10.06	37.6	75.1	111.1	239.7	311.3	1.3	-20.3	-25.9	-75.4	-77.9
Z	4	7	0.71	1.51	1.90	0.03	2.50	2.04	10.56	38.7	77.7	115.6	220.8	286.4	2.5	-17.3	-21.3	-72.0	-74.4
Z	6	1	0.09	0.18	3.08	0.00	0.32	0.30	1.54	103.9	21.6	74.5	254.1	327.7	-28.9	-35.3	-36.9	-92.6	-95.5
Z	6	2	0.12	0.19	3.13	0.00	0.43	0.40	2.05	28.3	82.3	111.3	494.5	564.9	-24.5	-32.9	-35.6	-104.1	-105.0
Z	6	3	0.24	0.40	2.62	0.01	0.84	0.71	3.69	32.5	96.2	66.9	127.2	243.3	-15.2	-26.2	-32.4	-49.2	-80.6
Z	6	4	0.42	0.71	2.26	0.02	1.48	1.30	6.73	35.0	105.1	68.6	139.3	248.7	-5.9	-8.5	-25.5	-50.5	-77.3
Z	6	5	0.47	0.88	2.23	0.02	1.64	1.47	7.60	36.7	110.1	72.5	249.8	317.9	-4.8	-14.8	-23.6	-76.0	-78.5
Z	6	6	0.48	0.82	2.13	0.02	1.70	1.42	7.37	38.2	113.8	76.8	239.2	310.5	-2.0	-23.6	-26.3	-81.3	-83.5
Z	6	7	0.57	0.99	3.16	0.02	2.00	1.67	8.63	39.2	78.8	117.3	223.1	895.5	0.0	-13.8	-20.0	-74.0	-83.2

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6.2.2 Zone: Shoulder (inside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	0	0.02	0.04	4.92	0.00	0.07	0.06	0.34	103.0	62.2	15.5	259.8	333.2	-51.7	-54.6	-55.0	-102.9	-105.5
Z	0	1	3.62	6.88	3.93	0.13	12.74	12.90	66.81	107.5	78.5	46.3	134.1	0.0	-1.1	-2.7	-6.7	-14.0	-17.4
Z	0	2	8.26	15.56	3.92	0.31	29.07	28.13	145.72	46.5	74.0	103.3	133.0	275.7	2.2	1.6	-7.9	-19.0	-72.4
Z	0	3	22.63	43.00	3.21	0.84	79.69	74.80	387.49	55.7	30.9	91.4	122.3	256.1	13.4	10.3	3.9	-5.2	-47.8
Z	0	4	34.66	74.54	3.29	1.29	122.03	115.05	595.95	54.4	27.9	82.1	123.7	280.9	19.1	15.2	12.5	-5.1	-59.1
Z	0	5	44.96	56.30	2.83	1.68	158.29	150.19	777.97	28.6	61.3	100.2	278.0	354.3	23.8	15.6	8.9	-48.0	-50.3
Z	0	6	49.65	79.45	2.81	1.85	174.80	156.77	812.10	29.1	63.2	98.7	118.8	233.8	30.0	14.0	6.5	3.7	-39.9
Z	0	7	54.86	95.61	2.62	2.04	193.16	168.51	872.87	30.3	63.0	96.7	122.4	238.3	32.8	14.1	8.7	4.9	-38.0
Z	2	1	3.43	7.65	2.87	0.13	12.06	11.63	60.27	102.1	77.1	132.7	270.9	341.9	2.0	-6.4	-15.1	-66.8	-69.0
Z	2	2	3.44	7.54	2.98	0.13	12.11	11.48	59.44	102.5	75.0	132.7	251.5	325.9	1.2	-3.5	-16.7	-64.6	-68.7
Z	2	3	6.82	11.83	3.07	0.25	24.02	22.95	118.90	32.0	88.7	63.4	123.7	232.7	5.8	2.1	-1.2	-15.7	-56.3
Z	2	4	9.63	16.89	2.59	0.36	33.91	30.49	157.93	34.1	62.3	102.4	131.3	243.3	17.0	11.5	-8.9	-15.0	-50.2
Z	2	5	13.14	25.15	2.17	0.49	46.27	39.64	205.33	36.1	64.2	100.8	128.3	243.7	23.0	14.6	-2.0	-19.9	-51.2
Z	2	6	15.56	31.19	2.29	0.58	54.79	47.22	244.61	37.6	68.1	106.4	244.4	314.8	22.8	9.8	-1.5	-43.9	-46.4
Z	2	7	17.75	37.94	2.37	0.66	62.51	54.15	280.50	38.5	73.3	114.6	302.5	373.6	28.9	9.5	1.2	-54.6	-56.3
Z	4	1	3.57	8.89	2.30	0.13	12.58	10.95	56.71	100.9	76.4	128.8	269.4	339.0	7.3	-11.2	-11.2	-70.2	-72.2
Z	4	2	3.28	7.13	3.09	0.12	11.56	10.93	56.61	106.7	76.7	35.9	266.3	338.4	5.2	-6.6	-12.2	-64.3	-66.7
Z	4	3	3.87	6.79	2.56	0.14	13.61	12.27	63.57	32.2	67.0	91.1	297.3	370.2	1.3	-6.9	-8.2	-61.0	-63.1
Z	4	4	5.81	8.71	2.26	0.22	20.45	17.66	91.48	34.6	63.5	112.8	366.2	437.3	15.6	3.3	-10.0	-66.8	-68.2
Z	4	5	8.38	15.05	2.26	0.31	29.50	24.93	129.15	37.2	67.5	95.0	124.5	239.7	18.9	-0.3	-1.3	-22.1	-54.1
Z	4	6	10.94	20.76	2.14	0.41	38.50	32.23	166.96	39.0	94.8	71.8	244.1	314.8	22.7	5.7	-3.9	-49.2	-51.9
Z	4	7	12.75	25.71	1.98	0.48	44.88	36.70	190.13	40.4	93.4	243.6	314.4	382.0	27.4	-1.9	-47.0	-49.7	-51.5
Z	6	1	2.85	7.07	2.60	0.11	10.02	8.81	45.62	100.7	127.9	75.4	41.5	589.8	3.5	-9.9	-12.1	-22.0	-79.9
Z	6	2	3.21	7.41	3.14	0.12	11.31	10.49	54.33	106.3	71.7	31.4	255.4	323.8	5.3	-10.8	-12.5	-58.0	-60.3
Z	6	3	3.74	6.46	2.67	0.14	13.16	11.72	60.69	32.4	71.0	236.7	309.2	377.7	1.4	-8.0	-52.5	-55.4	-57.3
Z	6	4	5.60	8.12	2.21	0.21	19.70	16.85	87.28	34.7	63.8	115.7	244.5	315.0	14.4	1.0	-4.8	-53.2	-55.8
Z	6	5	7.77	15.75	2.19	0.29	27.37	23.00	119.12	37.2	68.7	97.4	242.0	313.4	17.7	-3.1	-7.1	-51.6	-54.2
Z	6	6	10.32	19.51	2.07	0.38	36.33	30.30	156.94	39.2	95.2	75.3	243.3	314.3	22.3	2.5	-6.0	-49.1	-51.8
Z	6	7	12.24	24.84	1.97	0.46	43.11	35.31	182.90	40.7	95.3	124.2	242.5	313.8	29.1	0.4	-13.8	-51.8	-54.6

6.2.3 Zone: Shoulder (outside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	0	0.02	0.03	4.73	0.00	0.06	0.05	0.28	0.0	96.5	57.2	254.8	326.6	-49.7	-55.8	-55.9	-102.3	-104.8
Z	0	1	3.23	6.27	3.41	0.12	11.37	10.83	56.12	61.8	40.2	92.6	261.1	334.6	-6.5	-8.7	-9.8	-60.3	-62.8
Z	0	2	8.65	16.31	4.00	0.32	30.45	28.65	148.42	51.7	74.8	111.5	267.7	691.0	3.0	-1.1	-14.1	-66.6	-73.9
Z	0	3	19.42	38.16	3.31	0.72	68.38	62.65	324.56	54.2	27.9	102.7	243.2	313.9	14.5	12.4	0.7	-39.5	-42.0
Z	0	4	21.46	39.86	3.03	0.80	75.55	66.31	343.51	28.2	61.2	100.3	256.6	328.2	15.8	10.5	5.4	-49.8	-52.7
Z	0	5	29.82	44.35	2.47	1.11	104.98	87.04	450.86	27.8	72.3	107.2	241.2	312.1	25.3	7.5	3.7	-37.4	-39.9
Z	0	6	36.97	54.28	2.32	1.38	130.15	106.91	553.83	29.2	74.2	116.3	239.9	311.7	25.5	9.1	3.2	-34.5	-37.4
Z	0	7	40.98	64.25	2.27	1.53	144.27	118.75	615.11	30.2	94.6	65.1	123.1	238.6	30.4	14.5	13.2	6.1	-41.4
Z	2	1	1.14	1.52	2.77	0.04	4.01	3.64	18.86	18.6	100.6	72.8	127.6	289.5	-1.9	-11.0	-21.9	-29.0	-87.4
Z	2	2	0.96	1.93	3.26	0.04	3.37	3.05	15.79	99.1	22.4	60.9	125.4	258.3	-7.9	-18.6	-22.4	-27.7	-78.1
Z	2	3	3.02	5.78	2.47	0.11	10.63	9.32	48.27	31.2	61.7	89.9	121.2	239.9	4.5	-4.9	-14.4	-25.3	-61.4
Z	2	4	3.98	8.42	2.19	0.15	14.00	11.89	61.61	34.1	66.1	98.7	243.2	314.2	13.5	-3.4	-14.8	-58.6	-61.5
Z	2	5	5.09	11.88	2.06	0.19	17.92	15.05	77.95	36.1	72.4	100.2	244.3	315.0	20.3	-0.9	-10.0	-57.5	-60.3
Z	2	6	6.33	13.28	2.15	0.24	22.29	18.83	97.53	37.5	74.7	103.2	245.3	315.5	20.4	0.9	-10.8	-55.1	-57.7
Z	2	7	7.49	16.01	2.14	0.28	26.38	22.44	116.26	38.5	76.8	108.9	243.2	313.7	22.3	6.6	-13.4	-52.9	-55.4
Z	4	1	0.89	1.29	2.33	0.03	3.12	2.71	14.04	18.4	100.6	75.7	128.4	245.4	0.1	-8.2	-28.5	-29.7	-71.1
Z	4	2	1.20	1.37	2.17	0.04	4.21	3.52	18.25	24.4	106.7	77.4	243.7	312.7	5.8	-10.9	-20.6	-72.0	-74.4
Z	4	3	1.00	1.54	1.98	0.04	3.53	2.91	15.09	31.0	88.0	122.1	277.6	357.7	1.1	-23.0	-35.4	-83.9	-87.1
Z	4	4	0.84	1.35	2.25	0.03	2.95	2.48	12.83	34.7	68.8	112.9	243.9	314.5	-3.1	-21.3	-25.2	-67.0	-69.7
Z	4	5	0.78	1.50	2.83	0.03	2.74	2.43	12.61	37.4	100.8	75.7	237.5	309.5	-8.0	-20.5	-20.6	-70.6	-73.2
Z	4	6	0.83	1.78	3.11	0.03	2.93	2.63	13.63	39.6	85.9	240.4	311.8	379.9	-13.4	-17.3	-66.6	-69.4	-71.2
Z	4	7	0.79	1.80	6.12	0.03	2.79	2.49	12.87	85.5	41.6	119.0	241.7	312.8	-12.6	-17.3	-18.1	-59.7	-62.3
Z	6	1	0.58	1.11	2.44	0.02	2.04	1.81	9.40	18.4	100.4	127.6	74.9	239.7	-5.8	-5.8	-21.5	-28.2	-79.6
Z	6	2	0.74	1.26	2.51	0.03	2.62	2.30	11.93	24.3	106.3	77.2	241.4	318.1	-3.6	-7.9	-19.6	-84.3	-88.5
Z	6	3	0.47	0.94	2.73	0.02	1.67	1.50	7.77	33.5	84.6	237.9	309.6	377.9	-19.8	-21.5	-70.5	-73.1	-75.0
Z	6	4	0.38	0.70	2.86	0.01	1.34	1.20	6.19	63.1	116.5	240.2	311.6	379.7	-18.7	-20.3	-74.2	-76.9	-78.8
Z	6	5	0.50	1.11	3.05	0.02	1.76	1.56	8.10	93.5	66.5	121.2	240.7	312.2	-20.0	-21.0	-33.8	-72.1	-74.6
Z	6	6	0.79	1.76	2.53	0.03	2.77	2.40	12.45	94.1	39.1	70.6	123.7	237.1	-8.6	-13.6	-19.5	-32.0	-76.0
Z	6	7	0.85	1.76	2.58	0.03	2.98	2.61	13.50	40.5	94.8	75.0	123.6	245.1	-5.2	-12.4	-23.0	-30.3	-75.0

6.2.4 Zone: Ribs (outside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	1	2.24	4.01	2.68	0.08	7.88	7.28	37.74	48.2	89.7	255.0	324.5	388.7	-5.8	-17.3	-62.7	-64.8	-66.3
Z	0	2	4.49	9.76	2.33	0.17	15.81	14.03	72.65	53.4	26.6	95.6	125.9	763.8	7.9	0.0	-16.0	-23.4	-77.2
Z	0	3	9.24	19.98	2.29	0.34	32.55	28.95	149.98	58.1	29.4	92.0	243.4	314.2	10.7	8.2	-7.9	-47.7	-50.3
Z	0	4	11.45	21.99	2.34	0.43	40.31	35.84	185.66	29.6	59.3	116.9	370.5	439.8	18.9	15.6	-6.2	-60.3	-61.6
Z	0	5	13.67	17.38	2.07	0.51	48.14	39.88	206.60	29.5	116.2	80.6	303.2	373.6	17.7	3.2	0.8	-50.4	-52.1
Z	0	6	18.51	37.63	2.01	0.69	65.16	55.96	289.89	29.7	60.2	97.5	138.9	243.1	19.8	13.9	-3.0	-15.2	-45.1
Z	0	7	21.23	44.20	2.01	0.79	74.75	63.99	331.45	30.8	62.2	119.8	242.4	313.1	22.8	16.8	-2.0	-41.7	-44.0
Z	2	1	0.77	1.29	2.24	0.03	2.71	2.35	12.19	20.5	74.8	106.6	230.6	303.4	-6.5	-10.9	-28.6	-79.6	-82.7
Z	2	2	1.31	2.10	1.92	0.05	4.60	3.77	19.51	27.0	79.6	235.9	308.2	376.8	0.4	-20.5	-67.5	-69.9	-71.6
Z	2	3	1.70	4.56	1.99	0.06	5.98	4.95	25.62	31.4	63.7	91.7	242.2	313.4	10.0	-15.9	-18.9	-71.0	-73.7
Z	2	4	1.75	3.55	2.12	0.07	6.16	5.39	27.92	34.1	66.8	97.5	248.7	317.8	7.1	-3.4	-21.3	-63.7	-65.9
Z	2	5	2.04	3.98	2.24	0.08	7.18	6.42	33.25	35.7	69.7	100.5	240.7	311.6	4.6	1.6	-22.1	-65.2	-67.4
Z	2	6	2.40	5.15	2.24	0.09	8.43	7.45	38.61	72.4	36.8	106.1	234.6	306.4	5.4	4.2	-21.2	-63.2	-65.5
Z	2	7	2.73	6.20	2.14	0.10	9.61	8.29	42.93	74.4	37.4	112.0	230.3	304.3	9.5	9.0	-16.6	-72.9	-76.2
Z	4	1	0.44	0.84	4.74	0.02	1.55	1.63	8.43	85.8	71.9	24.0	291.3	365.6	-23.5	-23.8	-29.0	-92.2	-94.4
Z	4	2	0.73	1.68	2.54	0.03	2.58	2.31	11.97	81.4	110.9	39.7	263.6	336.6	-12.5	-24.3	-24.5	-72.5	-75.1
Z	4	3	1.27	2.47	3.28	0.05	4.46	4.36	22.60	92.8	63.1	33.6	125.6	297.0	-5.1	-11.5	-19.1	-23.5	-76.2
Z	4	4	1.65	3.47	3.17	0.06	5.80	5.41	28.04	98.2	67.2	34.7	132.2	243.3	-4.2	-4.2	-14.0	-28.8	-68.3
Z	4	5	1.75	4.03	2.83	0.07	6.15	5.65	29.28	71.6	102.5	36.2	257.8	328.9	-2.4	-9.5	-13.8	-68.6	-71.1
Z	4	6	1.57	3.39	3.17	0.06	5.54	5.18	26.84	75.2	110.3	36.3	261.5	334.4	-4.5	-11.7	-15.1	-69.9	-72.6
Z	4	7	0.73	1.53	3.12	0.03	2.57	2.20	11.41	115.5	77.9	39.0	247.1	316.5	-7.0	-11.3	-12.5	-67.0	-69.4
Z	6	1	0.12	0.22	3.40	0.00	0.43	0.41	2.12	20.6	104.9	78.7	127.3	244.5	-28.1	-31.3	-40.2	-41.2	-84.9
Z	6	2	0.11	0.18	2.79	0.00	0.38	0.35	1.80	27.4	77.7	106.0	135.1	251.9	-25.0	-34.7	-37.9	-45.2	-86.6
Z	6	3	0.18	0.31	2.69	0.01	0.62	0.59	3.06	32.6	63.0	93.9	123.7	295.4	-23.5	-30.6	-35.2	-37.6	-92.4
Z	6	4	0.30	0.54	3.39	0.01	1.06	1.02	5.26	36.1	65.2	102.4	244.4	315.1	-22.7	-24.5	-32.6	-70.4	-73.3
Z	6	5	0.49	0.84	2.88	0.02	1.73	1.67	8.64	37.2	67.4	102.6	243.1	313.9	-13.5	-15.3	-19.1	-76.7	-79.2
Z	6	6	0.61	1.10	2.65	0.02	2.15	2.01	10.44	38.6	70.8	105.5	228.4	304.0	-8.4	-15.7	-23.5	-77.0	-80.3
Z	6	7	3.27	6.62	2.99	0.12	11.51	10.55	54.63	117.4	78.5	39.3	148.0	285.5	12.7	11.8	-9.1	-35.3	-72.5

6.2.5 Zone: Waist X (inside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
X	0	0	0.04	0.04	4.52	0.00	0.12	0.12	0.61	0.0	97.8	56.4	260.7	333.6	-34.2	-52.3	-52.5	-99.8	-102.2
X	0	1	1.73	3.29	3.60	0.06	6.09	5.65	29.29	44.5	102.6	0.0	261.4	334.7	-8.8	-20.7	-21.5	-75.7	-78.4
X	0	2	3.71	7.13	3.47	0.14	13.05	12.24	63.41	33.5	54.0	239.5	310.7	378.8	-4.3	-4.7	-59.4	-61.8	-63.5
X	0	3	5.58	12.69	4.07	0.21	19.65	17.74	91.88	55.7	104.5	238.7	310.5	378.8	2.9	-12.3	-53.5	-56.2	-57.9
X	0	4	7.03	13.71	3.51	0.26	24.74	22.29	115.47	57.3	32.7	113.6	88.4	235.2	4.3	-0.6	-5.6	-8.1	-55.4
X	0	5	7.24	11.51	3.32	0.27	25.49	23.71	122.81	30.3	59.7	113.9	233.6	306.0	4.7	2.0	-7.4	-53.6	-55.8
X	0	6	10.32	20.24	2.76	0.38	36.33	31.87	165.08	29.1	60.6	95.8	238.2	310.2	15.6	0.0	-10.1	-50.6	-53.2
X	0	7	11.03	17.73	3.23	0.41	38.84	35.28	182.76	29.3	88.1	62.0	117.7	302.6	17.1	-1.4	-3.7	-5.6	-58.2
X	2	1	1.68	4.08	2.74	0.06	5.90	5.23	27.08	73.8	28.9	101.5	248.7	317.3	-0.8	-21.4	-23.1	-64.4	-66.8
X	2	2	1.50	2.86	4.19	0.06	5.27	5.22	27.02	33.1	75.3	108.3	269.6	342.1	-13.6	-14.1	-16.1	-76.1	-78.5
X	2	3	2.90	5.59	2.95	0.11	10.21	9.21	47.73	31.6	60.4	90.6	119.5	240.9	-3.8	-6.0	-7.2	-17.4	-57.6
X	2	4	5.19	10.36	2.93	0.19	18.26	16.74	86.69	63.5	33.1	95.4	124.3	961.9	9.3	7.5	5.8	-18.7	-79.7
X	2	5	6.50	13.04	2.81	0.24	22.87	21.05	109.05	67.4	34.7	100.7	244.7	315.0	7.7	7.1	4.5	-48.2	-50.8
X	2	6	7.34	14.77	2.60	0.27	25.83	23.39	121.18	35.1	69.3	103.5	263.7	895.8	15.5	13.7	3.9	-66.9	-74.6
X	2	7	8.26	16.86	2.32	0.31	29.09	25.98	134.57	35.6	71.0	107.1	244.3	314.6	20.1	18.3	5.3	-56.3	-58.8
X	4	1	1.37	3.39	2.92	0.05	4.81	4.24	21.95	74.0	105.1	32.5	126.8	261.8	-3.0	-20.8	-22.8	-24.3	-70.9
X	4	2	1.37	2.62	3.57	0.05	4.84	4.56	23.62	79.3	29.0	109.2	253.7	858.6	-10.0	-10.8	-18.8	-70.0	-78.3
X	4	3	2.18	3.93	2.80	0.08	7.67	6.76	35.03	32.0	93.4	64.0	121.1	241.1	-2.5	-10.8	-12.8	-17.6	-59.3
X	4	4	3.95	7.83	2.84	0.15	13.89	12.63	65.42	34.0	65.7	99.5	127.7	240.5	3.7	1.2	1.1	-18.3	-56.9
X	4	5	5.49	9.77	3.00	0.20	19.33	18.26	94.56	35.5	69.0	104.0	129.9	242.9	7.2	6.2	6.0	-22.6	-52.8
X	4	6	6.22	10.58	2.86	0.23	21.90	20.82	107.86	36.4	71.9	107.5	244.6	314.9	10.9	9.5	6.6	-50.9	-53.8
X	4	7	6.66	11.12	2.70	0.25	23.44	21.98	113.84	36.9	73.4	110.2	245.5	315.2	17.6	15.3	6.7	-56.3	-58.9
X	6	1	1.05	2.51	2.80	0.04	3.68	3.22	16.69	73.2	102.4	127.2	26.0	245.7	-6.3	-22.0	-22.8	-23.9	-67.2
X	6	2	1.07	2.00	3.61	0.04	3.76	3.52	18.24	30.6	75.9	263.0	336.0	405.2	-14.2	-15.2	-70.8	-73.3	-75.0
X	6	3	1.47	2.81	3.03	0.05	5.18	4.78	24.78	34.5	63.6	95.3	123.4	237.9	-12.4	-13.9	-15.1	-19.1	-59.4
X	6	4	2.32	4.48	3.06	0.09	8.17	7.57	39.21	67.0	100.5	35.3	130.2	242.3	-3.9	-5.3	-6.7	-14.9	-58.0
X	6	5	3.05	5.94	3.17	0.11	10.73	10.10	52.34	69.8	103.7	36.6	134.3	232.5	2.3	-0.6	-1.3	-17.4	-61.2
X	6	6	3.36	6.71	3.07	0.13	11.84	11.11	57.55	72.9	37.5	107.3	136.9	761.0	5.8	2.2	-1.6	-22.6	-76.5
X	6	7	3.33	7.58	2.95	0.12	11.73	10.37	53.70	74.6	38.1	111.8	140.7	246.1	9.1	5.8	-5.9	-28.4	-59.5

6.2.6 Zone: Waist Y (inside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Y	0	0	0.04	0.04	4.14	0.00	0.12	0.12	0.60	0.0	107.0	78.7	44.7	281.8	-35.8	-50.4	-51.8	-51.9	-113.5
Y	0	1	6.29	13.62	2.84	0.23	22.16	19.80	102.57	47.3	84.8	241.0	308.8	375.0	6.1	-12.2	-58.0	-60.4	-62.0
Y	0	2	11.12	23.36	3.40	0.41	39.17	35.53	184.03	51.5	24.5	80.6	110.2	289.0	13.9	12.9	-4.2	-15.2	-69.2
Y	0	3	15.65	31.36	2.70	0.58	55.08	48.93	253.46	27.2	55.0	86.7	238.8	310.9	19.5	14.4	-6.0	-52.1	-54.9
Y	0	4	21.21	44.86	2.92	0.79	74.68	66.42	344.04	28.2	56.5	98.7	240.6	312.1	23.3	14.9	-9.2	-44.3	-46.7
Y	0	5	20.75	39.96	2.79	0.77	73.05	65.05	336.96	28.4	56.9	88.3	114.5	239.3	23.9	12.6	-2.9	-11.9	-49.2
Y	0	6	18.10	30.71	3.47	0.67	63.72	59.08	306.02	29.3	59.7	94.2	239.1	311.1	18.7	8.3	-4.6	-42.8	-45.7
Y	0	7	26.56	50.80	2.52	0.99	93.52	81.40	421.68	29.3	59.7	91.0	241.3	312.8	27.3	8.0	-3.2	-44.1	-46.9
Y	2	1	4.09	9.47	2.54	0.15	14.40	12.71	65.85	73.0	39.2	0.0	98.6	126.5	2.8	-5.6	-11.5	-13.8	-23.0
Y	2	2	8.56	17.35	2.59	0.32	30.15	27.66	143.30	54.8	28.9	89.6	239.5	311.3	8.3	1.4	-9.7	-49.8	-52.4
Y	2	3	15.53	33.50	2.47	0.58	54.69	48.93	253.49	58.6	30.6	91.2	242.9	313.9	20.7	19.4	-8.0	-50.7	-53.4
Y	2	4	19.73	39.78	2.20	0.74	69.46	60.92	315.58	32.8	61.5	96.5	240.8	312.3	27.1	19.3	-4.2	-48.4	-51.4
Y	2	5	23.90	67.51	2.08	0.89	84.16	71.11	368.38	34.1	64.3	99.3	246.6	316.3	32.0	16.5	-2.8	-43.6	-45.8
Y	2	6	28.07	82.95	1.98	1.05	98.83	81.29	421.11	34.9	67.5	101.7	244.3	315.5	36.8	15.3	-4.3	-42.8	-44.8
Y	2	7	32.51	95.74	1.89	1.21	114.45	93.03	481.90	35.5	70.4	107.2	249.5	317.7	41.6	17.4	-5.0	-41.9	-44.0
Y	4	1	4.18	10.00	2.54	0.16	14.73	12.90	66.83	73.5	35.9	0.0	263.6	337.0	3.2	-8.1	-13.6	-65.4	-68.2
Y	4	2	7.09	14.82	2.50	0.26	24.95	22.84	118.33	54.5	27.4	83.8	237.1	309.8	8.0	1.8	-3.5	-57.0	-59.8
Y	4	3	16.28	37.62	2.28	0.61	57.32	50.93	263.83	59.0	31.3	93.0	243.8	314.4	24.3	18.3	-10.0	-49.6	-52.2
Y	4	4	20.07	41.69	2.22	0.75	70.68	62.68	324.67	33.7	61.7	95.0	233.5	305.2	27.6	25.2	-6.1	-54.5	-58.3
Y	4	5	22.52	43.52	2.20	0.84	79.30	68.90	356.93	35.2	64.6	101.6	243.3	314.5	28.9	19.2	-1.4	-42.5	-44.6
Y	4	6	25.67	76.89	2.05	0.96	90.39	75.59	391.59	36.1	68.4	104.0	237.3	309.4	33.2	15.5	-2.8	-45.3	-47.6
Y	4	7	29.07	86.72	1.81	1.08	102.35	83.50	432.51	36.7	72.3	108.8	634.4	701.8	39.0	16.8	-5.4	-52.4	-52.9
Y	6	1	4.36	10.70	2.51	0.16	15.34	13.33	69.05	73.6	27.8	261.9	335.3	404.8	3.4	-8.7	-60.6	-63.1	-64.7
Y	6	2	6.30	11.69	2.56	0.23	22.17	20.39	105.64	55.0	28.5	83.7	238.4	310.6	3.7	-0.7	-3.3	-54.1	-57.0
Y	6	3	15.18	34.86	2.32	0.57	53.43	47.63	246.73	59.2	31.6	95.7	244.9	315.2	22.5	16.1	-12.0	-47.2	-49.6
Y	6	4	20.02	43.71	2.24	0.75	70.50	62.44	323.45	61.8	33.9	94.9	241.7	312.9	26.4	26.2	-8.6	-54.8	-57.4
Y	6	5	22.04	44.05	2.23	0.82	77.59	68.23	353.42	35.6	64.4	102.0	238.7	311.2	27.5	21.3	-2.8	-44.1	-46.3
Y	6	6	24.18	67.64	2.16	0.90	85.13	72.39	375.01	36.7	68.1	105.5	237.0	309.2	30.9	15.9	-2.2	-45.0	-47.4
Y	6	7	26.22	78.21	1.96	0.98	92.30	75.91	393.24	37.3	72.5	110.1	566.5	635.7	36.4	14.6	-5.0	-49.7	-50.3

6.2.7 Zone: Waist Z (inside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	0	0.04	0.05	3.93	0.00	0.13	0.12	0.62	0.0	106.0	43.9	76.2	272.3	-36.8	-49.0	-50.3	-50.9	-108.0
Z	0	1	4.42	7.76	3.70	0.16	15.55	14.82	76.78	110.0	42.0	74.8	0.0	263.0	1.0	-4.5	-6.3	-11.7	-60.4
Z	0	2	9.64	17.75	3.28	0.36	33.96	30.79	159.48	52.5	26.7	87.5	119.4	235.3	6.6	5.0	-5.5	-12.6	-54.2
Z	0	3	14.69	25.51	3.66	0.55	51.73	47.07	243.81	27.6	55.7	99.7	286.9	362.7	15.3	12.5	-4.5	-64.9	-67.3
Z	0	4	26.02	39.25	4.16	0.97	91.60	94.82	491.17	28.4	57.3	90.9	115.1	233.9	21.7	15.3	2.6	-3.2	-49.2
Z	0	5	35.45	53.57	2.78	1.32	124.80	114.47	592.95	28.8	59.6	104.3	239.2	311.2	24.1	15.5	1.0	-38.0	-40.8
Z	0	6	51.27	86.43	2.64	1.91	180.50	163.46	846.71	28.9	59.5	100.4	240.6	312.3	30.1	18.7	1.6	-35.7	-38.4
Z	0	7	51.90	83.46	2.74	1.93	182.73	167.34	866.84	28.9	58.6	90.7	117.0	233.5	34.1	20.8	6.4	6.0	-42.7
Z	2	1	3.23	5.72	3.29	0.12	11.39	11.50	59.57	108.3	74.1	43.5	135.4	0.0	-2.2	-2.8	-10.5	-16.9	-17.0
Z	2	2	4.57	8.99	2.77	0.17	16.10	14.40	74.60	28.5	60.9	89.9	128.6	249.6	0.2	-4.2	-9.2	-21.1	-60.2
Z	2	3	8.81	15.10	2.45	0.33	31.03	26.90	139.37	30.9	61.0	107.1	242.4	313.4	13.8	4.2	-8.3	-48.9	-51.5
Z	2	4	14.10	26.11	2.41	0.53	49.65	42.99	222.69	32.9	62.3	98.4	130.3	244.1	21.5	12.3	-3.5	-15.3	-46.8
Z	2	5	17.91	38.27	2.54	0.67	63.06	54.74	283.54	34.2	65.2	102.9	245.4	315.6	25.3	12.8	2.0	-42.8	-45.5
Z	2	6	21.01	41.82	2.46	0.78	73.96	63.80	330.50	35.0	67.9	103.1	245.7	315.3	32.1	15.4	2.9	-49.2	-51.6
Z	2	7	24.68	46.66	2.37	0.92	86.88	74.66	386.73	35.6	70.9	107.4	251.6	319.8	35.0	17.3	4.6	-39.8	-42.0
Z	4	1	3.19	5.85	3.36	0.12	11.24	11.13	57.65	73.1	108.8	37.5	134.8	264.5	-3.0	-4.0	-12.2	-17.9	-61.4
Z	4	2	4.49	7.64	2.78	0.17	15.80	14.36	74.38	29.0	60.1	91.1	131.4	261.1	-0.4	-3.7	-10.0	-21.2	-63.6
Z	4	3	8.59	15.64	2.28	0.32	30.26	26.08	135.09	31.4	62.0	103.7	244.2	314.5	16.8	4.2	-7.6	-51.5	-54.0
Z	4	4	13.52	26.89	2.47	0.50	47.62	41.49	214.92	33.7	64.4	99.7	133.0	245.5	24.6	12.1	-3.9	-19.8	-49.0
Z	4	5	18.04	39.60	2.37	0.67	63.53	54.90	284.36	35.1	66.9	104.1	233.5	306.4	29.1	14.5	-0.5	-51.0	-54.6
Z	4	6	22.06	44.50	2.21	0.82	77.65	66.33	343.58	36.1	70.3	107.0	244.4	314.2	33.2	15.6	2.0	-48.8	-51.3
Z	4	7	25.82	46.38	2.13	0.96	90.90	77.51	401.48	36.7	73.1	110.0	246.4	316.4	37.6	19.5	10.1	-42.4	-44.6
Z	6	1	3.09	5.73	3.33	0.12	10.88	10.82	56.04	109.1	74.2	42.9	135.6	0.0	-1.2	-1.6	-10.8	-13.8	-16.8
Z	6	2	4.45	7.24	2.90	0.17	15.68	14.46	74.91	29.2	59.6	89.6	132.1	558.1	-1.1	-3.6	-9.5	-21.0	-72.5
Z	6	3	8.61	16.47	2.27	0.32	30.33	26.35	136.49	31.5	60.9	102.6	245.1	314.9	16.1	6.3	-7.2	-52.6	-54.9
Z	6	4	12.95	26.31	2.45	0.48	45.60	39.68	205.54	33.9	65.3	100.2	133.9	246.0	25.8	11.0	-2.5	-19.1	-50.6
Z	6	5	17.76	37.99	2.43	0.66	62.54	54.42	281.89	35.5	68.3	105.2	238.7	310.5	28.9	13.7	2.0	-50.1	-53.0
Z	6	6	22.14	45.42	2.26	0.83	77.95	66.82	346.14	36.6	71.6	108.4	243.9	314.1	33.0	15.7	2.2	-46.9	-49.3
Z	6	7	25.97	46.45	2.16	0.97	91.43	77.87	403.39	37.2	74.1	111.4	921.0	1000.0	39.2	20.3	6.6	-78.5	-78.8

6.2.8 Zone: Waist Z (outside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	0	0.01	0.01	3.50	0.00	0.02	0.02	0.11	0.0	52.3	95.3	118.3	261.0	-46.5	-60.9	-68.3	-69.0	-115.4
Z	0	1	3.60	6.43	3.63	0.13	12.68	12.63	65.41	71.8	40.5	101.2	0.0	259.2	-2.8	-5.6	-10.7	-12.6	-69.1
Z	0	2	9.00	16.12	4.08	0.34	31.70	31.35	162.40	53.8	30.2	82.7	111.7	261.2	3.5	2.1	-1.3	-12.3	-65.1
Z	0	3	16.30	31.39	3.73	0.61	57.39	54.56	282.61	56.6	28.9	87.6	240.2	311.7	12.0	10.0	-0.9	-44.2	-46.9
Z	0	4	19.76	39.38	3.20	0.74	69.57	65.60	339.80	57.1	28.4	90.4	116.7	233.7	16.2	16.0	-0.8	-9.1	-48.6
Z	0	5	20.11	29.56	2.49	0.75	70.80	61.16	316.84	28.7	59.9	115.3	91.2	230.6	19.4	8.8	1.8	-0.4	-48.8
Z	0	6	18.17	25.43	3.13	0.68	63.96	58.90	305.13	29.7	115.4	86.3	233.4	307.4	16.3	9.9	5.4	-46.3	-48.8
Z	0	7	27.30	45.10	2.67	1.02	96.13	83.27	431.34	29.3	87.9	116.6	63.4	234.2	24.6	9.9	7.3	5.1	-45.8
Z	2	1	0.76	0.82	3.14	0.03	2.69	2.51	12.99	20.5	59.6	98.6	242.4	311.0	-8.9	-27.4	-31.2	-75.1	-77.4
Z	2	2	1.52	2.12	3.70	0.06	5.35	4.96	25.70	26.7	70.3	102.8	248.0	316.8	-1.6	-16.2	-16.3	-64.6	-67.0
Z	2	3	1.81	2.75	3.36	0.07	6.39	6.05	31.33	31.0	93.0	65.4	122.7	301.3	-3.0	-13.9	-14.3	-15.5	-68.6
Z	2	4	2.02	3.53	3.55	0.08	7.12	6.96	36.03	32.5	66.5	98.1	129.6	239.3	-2.0	-3.7	-5.8	-15.4	-66.4
Z	2	5	2.44	4.72	3.19	0.09	8.60	8.33	43.16	69.0	102.6	33.2	135.0	247.5	1.8	-4.6	-5.8	-20.9	-60.1
Z	2	6	3.30	6.65	3.05	0.12	11.61	10.91	56.51	71.1	106.6	35.2	138.3	247.1	7.4	0.8	-4.9	-23.4	-58.0
Z	2	7	3.44	7.18	3.01	0.13	12.11	11.29	58.47	72.5	109.4	35.4	136.1	251.3	8.6	0.4	-3.3	-28.7	-58.0
Z	4	1	0.69	0.81	5.86	0.03	2.42	2.45	12.68	19.5	74.1	114.9	258.9	332.5	-13.0	-22.6	-36.5	-79.8	-82.3
Z	4	2	1.96	2.59	9.69	0.07	6.89	6.70	34.73	26.6	71.1	249.9	317.8	382.6	4.4	-20.9	-66.8	-69.1	-70.7
Z	4	3	1.76	2.99	3.72	0.07	6.20	5.59	28.95	31.2	59.8	95.1	243.3	313.8	2.1	-15.7	-27.7	-66.8	-69.4
Z	4	4	1.77	2.88	3.06	0.07	6.22	5.70	29.52	33.4	61.1	101.2	259.3	333.2	-0.2	-16.0	-27.0	-70.6	-73.3
Z	4	5	2.01	3.42	2.83	0.07	7.08	6.41	33.22	35.3	66.9	109.5	595.9	664.5	0.2	-16.2	-23.1	-68.5	-69.1
Z	4	6	2.22	3.85	2.54	0.08	7.82	6.89	35.68	37.0	75.0	112.1	268.4	340.7	1.2	-13.8	-15.9	-62.3	-64.4
Z	4	7	2.56	4.53	2.32	0.10	9.03	7.81	40.46	38.1	77.8	114.3	271.0	342.6	4.0	-11.3	-12.1	-61.4	-63.5
Z	6	1	0.48	0.60	2.92	0.02	1.68	1.53	7.95	20.0	73.7	121.0	254.1	325.4	-7.1	-21.8	-42.9	-83.8	-86.3
Z	6	2	0.76	1.05	3.01	0.03	2.68	2.36	12.22	26.8	73.5	233.9	305.4	373.9	-3.2	-28.6	-70.5	-72.9	-74.5
Z	6	3	0.99	1.86	2.61	0.04	3.49	3.09	16.02	31.8	60.9	98.1	242.1	313.3	2.1	-18.3	-32.0	-71.8	-74.8
Z	6	4	1.11	2.18	2.71	0.04	3.91	3.47	17.97	34.6	64.0	104.2	245.0	315.3	4.7	-13.4	-29.6	-71.1	-73.8
Z	6	5	1.24	2.34	2.35	0.05	4.38	3.84	19.88	36.5	65.6	107.5	246.4	316.2	6.7	-13.4	-24.5	-69.7	-72.1
Z	6	6	1.34	2.60	2.43	0.05	4.72	4.14	21.43	37.9	68.9	109.5	243.9	314.1	7.2	-16.8	-23.8	-69.0	-71.4
Z	6	7	1.41	2.65	2.49	0.05	4.96	4.33	22.43	38.8	75.1	114.7	239.1	308.8	7.6	-17.0	-22.5	-68.4	-70.7

6.2.9 Zone: Feet (inside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	1	5.51	9.08	2.52	0.21	19.39	17.07	88.44	110.3	33.1	74.2	0.0	267.6	4.3	-3.6	-6.1	-6.7	-61.0
Z	0	2	10.10	19.57	2.77	0.38	35.57	33.06	171.28	26.6	54.1	85.2	120.2	238.7	6.7	6.0	-4.3	-19.2	-53.0
Z	0	3	20.77	32.81	2.15	0.77	73.14	62.42	323.34	27.8	59.2	106.8	238.4	310.3	18.8	8.3	-0.2	-44.5	-47.0
Z	0	4	33.81	56.79	1.96	1.26	119.02	98.55	510.51	27.7	70.1	239.5	310.9	379.0	28.9	5.0	-41.7	-44.1	-45.8
Z	0	5	46.34	133.23	1.70	1.73	163.14	130.00	673.43	27.6	109.2	71.3	223.7	629.9	38.0	4.2	2.3	-38.7	-46.6
Z	0	6	57.27	162.17	1.60	2.13	201.63	160.40	830.89	28.0	65.3	110.7	233.7	308.6	40.4	4.0	2.6	-34.8	-37.0
Z	0	7	67.17	196.41	1.78	2.50	236.48	191.73	993.19	29.0	60.6	90.3	118.1	240.0	42.1	10.2	3.5	-3.4	-43.1
Z	2	1	5.27	8.99	3.22	0.20	18.54	17.07	88.44	45.6	111.6	77.6	0.0	268.1	3.5	-0.5	-7.8	-11.4	-60.8
Z	2	2	8.50	17.63	2.23	0.32	29.94	25.40	131.60	26.1	54.9	95.3	240.5	308.9	7.4	5.8	-9.3	-53.7	-55.7
Z	2	3	15.78	27.09	2.34	0.59	55.58	48.02	248.76	29.2	58.0	101.0	234.8	308.0	22.5	12.8	-7.3	-54.1	-56.5
Z	2	4	23.26	55.31	2.18	0.87	81.88	69.57	360.38	31.8	61.9	95.2	244.9	315.4	29.4	12.6	-1.2	-44.6	-47.3
Z	2	5	31.68	91.58	2.09	1.18	111.55	93.12	482.36	33.0	65.2	100.4	246.0	316.1	34.4	12.8	2.0	-41.1	-43.7
Z	2	6	40.26	121.95	1.89	1.50	141.75	116.97	605.90	33.6	66.5	99.2	133.6	242.1	43.2	18.8	9.4	-13.9	-47.2
Z	2	7	48.93	143.75	1.83	1.82	172.28	140.14	725.91	34.1	68.3	102.6	246.5	316.6	43.7	17.1	11.0	-39.7	-42.5
Z	4	1	4.36	7.82	3.16	0.16	15.34	14.33	74.24	44.3	111.0	74.6	0.0	259.9	-1.3	-4.1	-6.2	-11.3	-63.7
Z	4	2	8.75	18.50	2.55	0.33	30.80	27.30	141.40	55.1	27.0	93.2	284.3	360.8	9.4	7.7	-9.3	-65.0	-67.7
Z	4	3	15.05	28.92	2.23	0.56	52.98	45.59	236.14	29.9	58.1	108.1	243.4	314.1	20.8	15.8	-6.4	-47.3	-49.8
Z	4	4	20.56	38.98	2.33	0.77	72.38	62.03	321.32	32.2	61.0	99.5	244.8	315.2	27.4	16.1	-8.7	-45.1	-47.8
Z	4	5	28.30	73.03	2.11	1.05	99.62	82.98	429.86	34.1	64.2	105.9	242.0	313.3	34.5	16.0	-2.0	-43.3	-45.5
Z	4	6	34.58	99.41	1.96	1.29	121.76	99.95	517.76	35.4	68.1	104.3	247.3	316.8	39.0	14.6	-3.5	-40.7	-43.0
Z	4	7	40.98	118.91	1.88	1.53	144.29	118.07	611.61	36.1	71.6	108.3	239.9	312.8	45.0	17.6	4.7	-42.8	-45.1
Z	6	1	4.34	8.14	3.16	0.16	15.29	14.41	74.62	43.5	73.3	109.6	0.0	130.7	-2.5	-5.0	-5.7	-12.1	-17.9
Z	6	2	8.21	15.58	2.71	0.31	28.91	25.87	134.01	55.7	27.6	91.5	239.8	310.9	5.8	5.4	-8.9	-50.8	-53.3
Z	6	3	15.01	26.61	2.27	0.56	52.84	45.46	235.49	30.2	58.6	104.9	242.8	313.6	20.9	13.5	-7.3	-47.5	-50.1
Z	6	4	21.10	45.07	1.99	0.79	74.29	62.41	323.31	32.2	60.7	105.0	246.1	316.2	27.5	14.2	-10.2	-41.6	-44.3
Z	6	5	26.31	60.71	2.12	0.98	92.63	77.36	400.72	34.5	64.3	104.6	241.2	312.7	33.3	16.1	-0.1	-44.2	-46.5
Z	6	6	31.90	86.28	1.94	1.19	112.32	91.69	474.96	36.0	68.0	101.2	244.3	314.5	38.5	14.2	-5.9	-46.4	-49.0
Z	6	7	37.64	107.08	1.82	1.40	132.53	107.10	554.78	36.9	72.6	109.1	248.8	317.9	43.0	15.6	-4.4	-39.7	-41.7

6.2.10 Zone: Feet (outside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	1	5.20	9.26	2.01	0.19	18.30	15.51	80.35	19.9	48.9	81.9	239.2	310.5	2.3	-2.7	-16.0	-58.7	-61.3
Z	0	2	5.23	7.18	2.38	0.20	18.42	16.04	83.10	25.8	58.7	83.8	115.9	240.4	6.4	-5.1	-11.5	-20.8	-58.2
Z	0	3	9.06	14.52	2.72	0.34	31.91	30.12	156.01	28.9	57.1	84.3	123.7	435.3	5.2	4.4	2.5	-17.3	-62.9
Z	0	4	13.07	23.61	2.39	0.49	46.02	42.81	221.75	56.7	84.9	33.2	128.2	234.7	8.4	6.6	2.9	-14.0	-49.9
Z	0	5	15.85	29.71	2.32	0.59	55.82	49.97	258.84	55.3	283.1	359.7	431.0	500.1	9.5	-56.8	-59.3	-61.0	-62.2
Z	0	6	17.88	34.28	2.17	0.67	62.95	54.07	280.09	56.9	112.8	273.8	354.7	427.9	12.3	4.7	-52.4	-54.7	-56.3
Z	0	7	19.41	36.83	2.04	0.72	68.36	57.41	297.40	58.5	116.6	91.4	302.1	373.3	16.7	11.6	0.6	-50.5	-52.3
Z	2	1	1.12	2.65	2.11	0.04	3.96	3.21	16.65	19.6	49.6	242.5	313.5	380.9	0.3	-22.7	-71.8	-73.9	-75.4
Z	2	2	1.26	2.37	1.95	0.05	4.45	3.68	19.05	25.0	53.1	99.0	250.7	318.7	4.2	-10.2	-39.8	-69.0	-71.0
Z	2	3	1.20	2.76	2.25	0.04	4.23	3.53	18.29	29.1	57.4	101.5	249.1	318.0	7.3	-11.8	-42.4	-70.8	-72.9
Z	2	4	0.88	2.24	1.82	0.03	3.09	2.47	12.81	31.8	62.8	110.9	244.5	315.0	1.9	-26.3	-41.7	-70.9	-73.4
Z	2	5	1.42	4.03	1.79	0.05	5.01	3.98	20.60	33.0	101.9	65.3	246.0	316.0	9.7	-32.4	-33.6	-68.4	-70.9
Z	2	6	2.11	5.96	1.72	0.08	7.41	5.86	30.36	33.6	101.8	66.8	130.9	244.6	16.1	-24.0	-25.8	-43.0	-68.6
Z	2	7	2.81	8.01	1.61	0.10	9.91	7.84	40.61	34.0	67.5	102.3	136.2	246.2	20.2	-16.0	-17.3	-34.5	-68.2
Z	4	1	0.74	1.62	2.51	0.03	2.60	2.22	11.50	20.3	52.5	94.2	308.1	377.1	-2.9	-28.3	-45.5	-77.8	-79.4
Z	4	2	1.06	1.93	2.63	0.04	3.73	3.42	17.72	26.1	55.2	97.2	243.0	313.8	4.5	-19.6	-40.9	-76.2	-78.8
Z	4	3	2.21	6.23	1.73	0.08	7.79	6.23	32.28	29.7	58.3	111.1	248.9	317.9	15.2	-11.9	-38.1	-65.4	-67.4
Z	4	4	2.02	3.66	2.50	0.08	7.11	6.13	31.74	32.0	63.2	98.3	130.7	242.2	10.0	-12.3	-16.6	-26.1	-69.5
Z	4	5	1.98	2.99	1.75	0.07	6.98	5.44	28.16	34.1	102.4	65.0	137.2	245.5	11.0	-13.1	-25.4	-33.3	-64.8
Z	4	6	1.85	2.14	3.95	0.07	6.51	5.10	26.40	35.2	105.7	245.1	315.0	382.1	2.1	-15.8	-57.2	-59.7	-61.4
Z	4	7	2.01	3.94	2.33	0.08	7.09	5.68	29.44	35.9	107.6	70.1	142.0	250.0	8.8	-19.4	-20.5	-32.4	-62.0
Z	6	1	0.52	1.22	2.28	0.02	1.81	1.52	7.87	20.2	52.8	100.9	238.5	310.2	-3.9	-35.6	-50.7	-84.1	-86.6
Z	6	2	1.02	2.49	2.28	0.04	3.61	3.08	15.97	26.0	55.7	107.3	249.1	318.0	5.1	-24.0	-44.9	-70.5	-72.5
Z	6	3	1.84	5.26	1.68	0.07	6.48	5.20	26.93	30.0	58.8	104.4	246.0	315.9	13.7	-15.4	-40.4	-69.5	-71.8
Z	6	4	2.32	6.46	1.60	0.09	8.18	6.48	33.55	32.1	61.0	104.3	188.4	257.7	17.6	-17.5	-38.5	-59.8	-62.7
Z	6	5	1.67	4.15	1.98	0.06	5.88	4.80	24.86	34.3	65.4	100.6	246.6	316.0	6.5	-24.1	-30.1	-67.5	-69.9
Z	6	6	1.25	1.88	1.97	0.05	4.40	3.57	18.50	35.7	108.1	74.9	262.5	336.2	-5.0	-20.1	-21.6	-73.7	-76.6
Z	6	7	1.48	2.19	2.11	0.06	5.21	4.23	21.93	36.0	111.6	74.8	264.2	337.3	-6.5	-19.5	-20.3	-65.4	-67.9

6.2.11 Zone: Arm (inside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	0	0.01	0.01	3.66	0.00	0.03	0.03	0.13	0.0	55.0	93.6	118.9	248.8	-44.5	-64.4	-69.1	-72.2	-112.6
Z	0	1	6.30	8.46	2.32	0.23	22.18	18.26	94.58	25.8	106.6	59.7	246.8	312.9	13.9	-4.8	-7.3	-58.9	-61.3
Z	0	2	16.82	43.65	2.05	0.63	59.23	47.79	247.54	31.4	63.8	111.5	233.4	306.6	29.3	-0.5	-8.0	-47.5	-49.9
Z	0	3	21.72	62.65	1.93	0.81	76.47	61.92	320.75	37.2	66.7	107.0	235.1	307.5	33.1	2.8	-9.3	-47.7	-50.1
Z	0	4	20.42	58.36	1.99	0.76	71.89	58.36	302.30	40.5	68.5	121.1	218.8	286.7	30.4	4.6	-11.2	-43.6	-46.3
Z	0	5	20.37	57.81	1.94	0.76	71.74	58.10	300.94	42.8	72.4	108.5	234.0	302.3	27.3	-2.1	-15.3	-45.3	-47.7
Z	0	6	22.90	64.71	1.88	0.85	80.61	64.89	336.15	45.1	98.6	240.0	306.5	570.0	28.4	-3.9	-47.6	-49.8	-54.4
Z	0	7	25.87	72.49	1.84	0.96	91.10	72.84	377.34	47.2	100.1	241.1	311.2	378.7	30.8	-5.0	-45.1	-47.4	-49.1
Z	0	1	8.49	11.12	2.51	0.32	29.89	25.38	131.48	26.5	57.0	107.5	568.5	636.1	16.2	-1.0	-5.1	-66.8	-67.5
Z	0	2	16.76	44.64	1.98	0.62	59.00	47.62	246.66	32.2	65.9	112.0	240.7	312.1	28.5	-1.5	-8.5	-46.7	-49.1
Z	0	3	22.08	64.50	1.98	0.82	77.73	63.51	328.98	37.6	67.2	107.6	240.6	312.0	33.3	3.5	-7.4	-47.9	-50.5
Z	0	4	22.00	63.10	1.98	0.82	77.45	63.31	327.94	41.6	70.9	121.7	220.7	283.9	31.9	7.4	-11.9	-40.8	-43.2
Z	0	5	21.73	62.33	1.90	0.81	76.52	62.43	323.40	44.3	74.3	242.8	313.1	380.5	29.8	2.8	-44.5	-46.9	-48.5
Z	0	6	22.78	63.63	1.95	0.85	80.20	65.04	336.93	46.2	97.7	248.0	315.8	965.6	28.8	-0.7	-49.4	-51.9	-58.6
Z	0	7	25.99	72.50	1.79	0.97	91.49	73.14	378.85	48.3	99.0	241.7	311.1	378.2	32.5	-0.9	-46.3	-48.9	-50.6
Z	2	1	4.48	9.65	2.59	0.17	15.77	14.63	75.78	79.7	44.7	267.4	339.1	407.1	-2.6	-4.9	-61.3	-63.5	-65.0
Z	2	2	11.34	24.69	2.33	0.42	39.93	35.99	186.41	35.8	63.7	91.1	119.4	237.7	19.4	18.8	-0.5	-7.3	-60.8
Z	2	3	21.59	45.43	2.07	0.80	76.02	66.16	342.70	40.6	68.5	100.8	244.4	314.9	27.0	22.7	-3.3	-44.7	-47.0
Z	2	4	30.03	72.60	2.05	1.12	105.74	90.05	466.47	43.0	71.5	112.3	241.6	313.4	33.3	20.3	-8.1	-37.9	-40.1
Z	2	5	39.63	112.49	1.91	1.48	139.53	114.49	593.07	44.3	73.3	120.2	245.7	315.9	39.1	16.2	-10.0	-37.4	-40.0
Z	2	6	48.35	134.85	1.77	1.80	170.22	136.36	706.38	44.8	74.7	134.0	247.1	317.1	42.9	9.5	-7.2	-38.7	-41.4
Z	2	7	55.63	155.01	1.66	2.07	195.85	155.29	804.43	45.0	83.5	134.3	244.2	314.6	45.4	3.2	-3.0	-38.2	-41.0
Z	4	1	5.41	12.79	2.65	0.20	19.05	17.66	91.49	81.8	36.7	111.9	241.0	0.0	5.9	-6.5	-9.9	-52.9	0.0
Z	4	2	8.64	13.18	2.50	0.32	30.41	28.55	147.89	36.3	64.9	92.5	119.9	243.0	10.9	6.7	0.7	-18.0	-49.2
Z	4	3	18.19	37.91	2.30	0.68	64.04	57.41	297.37	41.2	68.8	97.3	243.1	313.6	27.4	25.1	0.6	-49.1	-51.9
Z	4	4	28.60	58.91	2.16	1.07	100.70	88.17	456.71	44.4	72.0	116.7	244.3	314.9	34.6	30.4	-15.0	-45.5	-48.1
Z	4	5	36.99	99.14	2.06	1.38	130.23	111.27	576.36	46.7	74.3	106.0	247.0	316.4	40.3	27.2	-13.9	-43.7	-45.9
Z	4	6	46.14	130.46	1.91	1.72	162.46	133.25	690.23	47.9	75.6	104.1	253.3	321.1	43.6	18.8	-5.0	-37.2	-39.4
Z	4	7	55.41	155.54	1.71	2.07	195.10	155.78	806.95	48.4	77.6	250.5	319.2	385.6	46.0	6.9	-37.0	-39.4	-41.1
Z	6	1	4.28	10.08	3.22	0.16	15.07	14.18	73.46	81.6	33.2	111.0	253.1	326.1	4.7	-7.7	-8.6	-57.5	-60.3
Z	6	2	7.64	14.80	2.61	0.28	26.90	25.43	131.74	91.2	36.0	64.5	120.5	241.8	12.7	10.2	2.5	-13.5	-54.2
Z	6	3	12.89	25.72	2.51	0.48	45.39	41.70	216.03	41.7	69.3	96.9	241.6	311.3	26.1	19.9	7.8	-59.5	-62.2
Z	6	4	21.40	43.91	2.21	0.80	75.35	66.24	343.13	45.6	73.1	124.6	242.9	313.8	31.9	26.4	-18.2	-53.2	-56.0
Z	6	5	30.21	60.38	2.07	1.13	106.38	91.88	475.95	48.4	76.0	105.7	506.1	573.6	36.6	28.3	-8.7	-49.5	-50.3
Z	6	6	38.53	104.92	1.99	1.44	135.67	114.20	591.58	50.6	78.1	106.4	599.1	667.0	41.6	24.9	-2.6	-52.7	-53.3
Z	6	7	47.09	131.75	1.80	1.76	165.81	133.51	691.57	51.9	79.5	107.3	468.6	536.5	44.3	13.3	-4.3	-48.5	-49.5

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custom8

6.2.12 Zone: Arm (outside), low pass filtered

Dir	W	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Z	0	1	5.66	8.95	2.39	0.21	19.93	17.13	88.72	26.6	58.6	92.0	369.8	438.9	10.4	-6.0	-13.5	-66.6	-67.8
Z	0	2	13.32	24.02	2.04	0.50	46.89	38.43	199.06	32.2	66.5	97.8	244.6	315.2	26.4	-1.5	-5.6	-48.2	-50.9
Z	0	3	19.50	43.63	2.26	0.73	68.67	57.67	298.76	37.7	74.6	112.3	238.3	309.8	33.2	13.5	-3.9	-50.4	-52.8
Z	0	4	20.36	60.39	2.19	0.76	71.69	60.46	313.21	41.7	81.4	120.6	231.5	300.9	30.2	12.7	-10.0	-40.5	-43.0
Z	0	5	19.85	58.83	2.11	0.74	69.87	58.47	302.87	44.3	88.7	127.9	235.1	306.4	29.5	6.5	-14.1	-50.9	-54.6
Z	0	6	19.45	57.61	1.99	0.72	68.49	56.52	292.76	46.2	92.4	127.2	253.0	326.2	27.8	7.4	-19.5	-55.8	-58.8
Z	0	7	20.12	59.26	1.86	0.75	70.85	57.82	299.49	48.3	96.3	243.4	313.0	380.0	29.8	6.9	-43.9	-46.2	-47.8
Z	2	1	0.29	0.41	2.41	0.01	1.03	0.89	4.60	27.7	106.8	71.4	256.1	327.9	-11.7	-33.5	-34.4	-83.4	-86.1
Z	2	2	0.56	1.49	2.34	0.02	1.97	1.66	8.59	35.7	65.0	96.8	121.6	241.9	-2.8	-24.0	-35.7	-41.0	-79.3
Z	2	3	0.73	1.66	2.21	0.03	2.58	2.19	11.36	40.4	69.4	104.4	244.0	314.3	-1.1	-19.2	-33.4	-75.2	-77.6
Z	2	4	0.92	2.31	2.90	0.03	3.24	2.68	13.89	42.9	74.4	114.3	889.3	964.5	-0.6	-20.8	-34.3	-74.6	-74.7
Z	2	5	1.11	2.52	2.92	0.04	3.90	3.24	16.78	44.2	81.6	113.4	217.7	734.8	0.7	-21.2	-29.5	-64.0	-73.3
Z	2	6	1.26	2.52	2.39	0.05	4.44	3.74	19.35	44.8	89.3	117.8	247.9	0.0	0.0	2.3	-12.5	-28.7	-76.6	0.0
Z	2	7	1.41	2.30	2.29	0.05	4.95	4.24	21.98	45.0	89.9	118.4	219.0	285.7	5.9	-3.6	-31.1	-64.9	-67.4
Z	4	1	0.35	0.87	2.99	0.01	1.24	1.14	5.91	81.6	110.5	35.1	246.6	311.9	-16.7	-25.6	-33.1	-73.8	-76.4
Z	4	2	0.43	0.83	2.81	0.02	1.50	1.44	7.47	64.7	92.0	36.5	120.0	240.1	-18.8	-19.2	-24.8	-26.6	-78.5
Z	4	3	0.81	1.91	2.61	0.03	2.85	2.58	13.37	69.0	41.0	99.8	244.0	314.6	-5.3	-12.4	-24.1	-74.2	-76.7
Z	4	4	1.21	2.83	2.54	0.05	4.27	3.79	19.63	72.3	44.4	104.8	120.3	242.7	-0.9	-2.4	-28.9	-30.0	-73.3
Z	4	5	1.46	3.18	2.63	0.05	5.14	4.64	24.02	46.5	74.6	94.0	121.5	244.9	0.6	-8.1	-21.8	-29.1	-69.6
Z	4	6	1.73	3.66	2.61	0.06	6.10	5.38	27.87	47.8	96.8	80.2	243.1	313.8	1.7	-14.6	-16.3	-62.3	-65.1
Z	4	7	2.01	3.39	3.06	0.07	7.08	6.11	31.63	48.5	96.8	241.3	311.2	378.6	5.4	-6.4	-58.8	-61.2	-62.9
Z	6	1	0.21	0.41	3.52	0.01	0.75	0.74	3.83	109.8	81.0	45.7	135.2	267.3	-23.2	-24.9	-35.9	-47.6	-86.5
Z	6	2	0.41	0.77	3.07	0.02	1.46	1.43	7.43	91.7	35.7	64.5	121.5	218.8	-14.9	-20.5	-21.4	-27.5	-82.7
Z	6	3	0.74	1.46	2.75	0.03	2.61	2.44	12.62	69.4	41.4	98.0	126.4	626.0	-5.4	-7.3	-18.4	-43.3	-99.3
Z	6	4	1.20	2.82	2.51	0.04	4.22	3.73	19.32	73.3	45.4	121.6	101.9	224.7	-0.6	-2.5	-28.1	-30.5	-75.3
Z	6	5	1.49	3.17	2.69	0.06	5.24	4.70	24.33	48.4	76.9	123.5	242.3	313.5	-0.6	-5.5	-19.9	-63.0	-66.1
Z	6	6	1.75	3.94	2.59	0.07	6.15	5.35	27.74	50.4	77.6	99.9	127.7	241.4	4.9	-12.8	-20.9	-24.5	-64.8
Z	6	7	2.07	5.27	2.28	0.08	7.29	6.02	31.17	51.8	103.1	77.4	127.7	265.9	9.1	-17.3	-19.6	-31.3	-73.8

6.3 Subject Tests

6.3.1   Subject 1 (60 kg), low pass filtered

Signal	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Head	1	0.21	0.42	4.83	0.01	0.75	0.70	3.64	103.4	71.0	17.2	128.6	247.2	-22.1	-31.8	-31.8	-41.6	-79.4
Shoulder	1	3.03	6.22	3.45	0.11	10.68	10.44	54.08	99.7	72.3	32.8	126.9	260.1	-0.1	-0.3	-16.1	-17.4	-65.6
Waist	1	1.07	1.49	3.41	0.04	3.75	3.45	17.88	20.4	58.4	96.0	250.5	319.4	-9.9	-20.9	-22.7	-70.5	-72.9
Feet	1	2.24	4.37	3.33	0.08	7.88	7.81	40.47	73.9	102.2	39.8	0.0	128.9	-2.4	-7.6	-12.8	-19.7	-30.0
Head	2	0.23	0.43	3.54	0.01	0.80	0.74	3.81	103.1	23.3	68.1	128.3	251.1	-22.4	-28.2	-31.9	-40.7	-79.9
Shoulder	2	4.09	7.79	3.61	0.15	14.40	14.25	73.79	78.2	40.5	107.7	231.9	302.1	-0.5	-5.7	-11.1	-53.2	-55.5
Waist	2	2.77	4.49	2.57	0.10	9.75	8.61	44.59	26.5	58.6	106.8	232.1	305.6	9.2	-14.4	-22.4	-63.1	-65.7
Feet	2	3.66	6.36	3.02	0.14	12.88	12.42	64.34	77.0	32.7	105.6	233.8	306.3	-3.2	-4.5	-12.8	-53.9	-56.6
Head	3	0.31	0.58	3.63	0.01	1.11	1.01	5.23	103.0	29.5	67.8	130.3	260.5	-18.3	-21.3	-29.4	-36.2	-86.3
Shoulder	3	6.43	10.43	2.94	0.24	22.65	21.42	110.97	29.9	58.1	86.3	118.2	230.6	7.6	5.2	1.8	-16.0	-61.1
Waist	3	4.91	11.55	2.35	0.18	17.28	15.00	77.70	30.8	59.2	94.0	241.0	312.4	22.9	-6.7	-28.6	-66.8	-69.7
Feet	3	4.57	7.35	3.64	0.17	16.10	16.11	83.44	29.3	57.6	86.1	124.6	237.9	9.1	2.2	-6.4	-28.3	-62.9
Head	4	0.42	0.82	3.81	0.02	1.49	1.34	6.92	102.9	32.5	69.0	129.9	245.8	-15.0	-16.8	-25.6	-33.7	-80.5
Shoulder	4	9.94	17.99	2.73	0.37	34.99	31.45	162.90	32.9	61.4	98.8	243.2	314.2	13.3	9.1	-5.9	-47.0	-49.8
Waist	4	6.36	15.30	2.29	0.24	22.38	19.38	100.40	33.5	62.7	110.3	239.2	310.8	26.3	-5.7	-24.6	-63.3	-65.9
Feet	4	3.07	5.75	3.07	0.11	10.82	9.80	50.75	33.3	65.2	100.3	242.5	313.7	8.5	-1.1	-15.6	-60.9	-63.6
Head	5	0.46	0.87	3.11	0.02	1.63	1.44	7.48	34.4	102.7	68.2	129.4	251.7	-12.7	-16.3	-26.4	-34.6	-77.9
Shoulder	5	13.67	27.34	2.71	0.51	48.11	42.53	220.32	34.9	64.2	97.8	244.5	315.1	21.2	13.0	2.0	-47.5	-50.2
Waist	5	7.27	16.58	7.32	0.27	25.59	24.52	127.04	35.4	72.7	107.5	0.0	266.2	12.4	-6.8	-8.1	-8.8	-61.0
Feet	5	2.65	5.80	3.13	0.1	9.34	8.49	43.96	35.4	70.6	100.8	245.8	316.0	5.5	3.9	-10.4	-59.9	-62.5
Head	6	0.52	0.97	3.22	0.02	1.84	1.65	8.53	35.8	103.3	70.8	129.8	262.0	-11.2	-17.2	-27.3	-34.1	-80.5
Shoulder	6	17.48	38.63	3.39	0.65	61.54	54.80	283.86	36.3	68.8	102.0	243.9	313.9	26.4	13.3	2.0	-49.5	-51.8
Waist	6	10.66	20.61	10.81	0.4	37.53	55.58	287.93	37.4	75.2	0.0	111.3	267.6	10.9	5.6	4.6	2.9	-55.3
Feet	6	3.02	6.84	3.04	0.11	10.63	9.54	49.39	37.0	73.7	102.2	245.2	315.5	9.0	9.0	-8.9	-61.2	-64.0
Head	7	0.58	1.04	3.25	0.02	2.04	1.85	9.57	36.6	102.9	71.8	129.2	254.1	-9.1	-16.1	-26.4	-33.6	-78.0
Shoulder	7	20.50	43.09	2.98	0.76	72.17	63.79	330.44	37.1	73.2	109.8	244.1	314.0	31.7	15.8	3.4	-48.6	-50.9
Waist	7	8.39	17.02	10.85	0.31	29.55	32.99	170.91	37.8	77.5	0.0	114.2	267.5	15.5	-1.1	-1.3	-4.9	-59.7
Feet	7	3.20	7.41	2.88	0.12	11.28	9.97	51.66	75.3	37.6	104.5	242.8	313.0	12.6	11.3	-15.7	-69.4	-71.5
Head	8	0.80	1.26	3.35	0.03	2.81	2.50	12.94	37.2	85.0	114.3	242.1	313.0	-1.8	-24.4	-25.4	-72.0	-74.5
Shoulder	8	17.46	39.25	3.47	0.65	61.48	53.45	276.87	36.6	72.2	108.0	244.8	315.1	28.8	12.6	1.8	-42.8	-45.1
Waist	8	7.43	16.21	3.40	0.28	26.15	22.92	118.71	37.0	76.4	0.0	113.1	207.0	15.3	-6.3	-6.7	-10.1	-49.8
Feet	8	3.08	6.78	2.91	0.11	10.84	9.67	50.10	36.8	73.7	107.2	243.2	313.9	10.2	10.0	-18.3	-60.1	-63.1

6.3.2 Subject 1 (60 kg), frequency weighted

Signal	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Head	1	0.17	0.30	4.58	0.01	0.61	0.57	2.96	104.8	22.4	81.3	136.5	228.7	-31.4	-35.4	-35.9	-41.8	-59.9
Shoulder	1	0.52	0.89	3.19	0.02	1.82	1.78	9.20	70.0	21.8	95.2	894.2	965.2	-21.0	-21.5	-27.3	-91.7	-91.8
Waist	1	0.56	0.78	2.66	0.02	1.97	1.76	9.09	20.4	54.9	91.7	232.9	375.3	-7.1	-33.5	-45.0	-73.7	-83.1
Feet	1	0.55	0.89	2.92	0.02	1.94	1.81	9.36	22.5	69.6	727.2	796.6	864.8	-18.3	-23.8	-84.7	-85.1	-85.3
Head	2	0.20	0.32	3.43	0.01	0.69	0.64	3.30	25.2	104.6	75.2	137.5	230.3	-30.9	-31.3	-36.1	-41.2	-62.0
Shoulder	2	1.13	1.64	3.43	0.04	3.97	3.63	18.80	25.9	61.6	83.3	288.5	366.3	-8.8	-19.6	-22.8	-73.1	-75.3
Waist	2	1.31	3.18	2.29	0.05	4.62	4.03	20.85	26.3	55.7	105.6	183.6	256.3	9.7	-26.3	-48.8	-62.0	-67.3
Feet	2	1.25	1.94	2.34	0.05	4.39	3.75	19.44	25.7	60.8	86.3	371.6	440.4	-3.6	-20.5	-25.5	-71.6	-72.9
Head	3	0.28	0.48	3.56	0.01	0.99	0.90	4.64	30.2	104.7	70.5	138.2	229.2	-23.1	-28.2	-33.6	-37.8	-61.4
Shoulder	3	2.03	4.16	2.29	0.08	7.16	6.16	31.93	29.6	58.1	88.0	145.5	298.6	6.1	-7.8	-20.0	-48.6	-75.0
Waist	3	2.00	5.03	2.15	0.07	7.05	6.09	31.53	30.8	58.6	182.4	255.7	317.5	18.5	-21.3	-64.6	-73.4	-75.5
Feet	3	1.67	3.51	2.85	0.06	5.87	5.37	27.83	29.1	57.3	87.0	150.7	214.0	8.0	-10.7	-28.3	-52.5	-65.5
Head	4	0.37	0.69	3.79	0.01	1.31	1.17	6.07	33.3	105.1	74.1	138.8	225.0	-19.5	-25.1	-30.2	-35.2	-57.5
Shoulder	4	3.15	7.26	2.24	0.12	11.07	9.30	48.16	32.6	60.7	99.0	298.4	371.6	15.3	-0.1	-25.3	-72.8	-75.2
Waist	4	2.39	6.00	2.20	0.09	8.40	7.25	37.55	33.5	62.1	111.8	196.8	343.4	18.7	-21.3	-49.4	-67.7	-84.9
Feet	4	1.01	1.90	2.97	0.04	3.56	3.12	16.17	33.2	64.5	101.5	152.5	220.9	7.4	-14.1	-36.7	-55.2	-69.1
Head	5	0.42	0.77	3.09	0.02	1.48	1.31	6.77	34.9	105.0	74.0	138.5	225.7	-15.1	-25.9	-30.7	-35.9	-57.0
Shoulder	5	4.23	9.95	2.09	0.16	14.89	12.28	63.63	34.7	63.7	98.7	307.8	377.5	18.4	-0.9	-21.6	-66.4	-68.3
Waist	5	2.64	6.14	4.33	0.10	9.28	8.61	44.58	35.2	0.0	72.0	513.6	589.1	6.2	-6.6	-24.4	-87.7	-89.4
Feet	5	0.70	1.14	3.46	0.03	2.45	2.25	11.66	35.3	70.4	102.0	166.3	219.7	2.2	-12.5	-35.6	-55.9	-66.9
Head	6	0.48	0.87	3.22	0.02	1.70	1.51	7.81	36.4	105.4	239.6	348.8	430.4	-12.8	-27.5	-56.3	-74.6	-77.8
Shoulder	6	5.39	13.86	2.28	0.20	18.98	15.46	80.09	36.2	68.1	102.4	304.0	375.3	21.4	-2.9	-21.8	-63.8	-65.7
Waist	6	3.78	6.82	7.74	0.14	13.31	16.20	83.90	0.0	36.3	74.9	115.2	513.9	3.5	2.2	-15.2	-28.2	-77.3
Feet	6	0.72	1.20	3.46	0.03	2.53	2.34	12.13	36.9	73.7	104.4	166.9	367.3	3.0	-10.2	-36.8	-53.8	-82.6
Head	7	0.53	0.93	3.27	0.02	1.87	1.69	8.73	36.9	104.7	81.8	137.5	222.3	-10.6	-25.2	-29.5	-34.9	-55.5
Shoulder	7	6.37	18.12	2.11	0.24	22.44	18.07	93.59	37.0	72.4	108.8	297.0	370.3	25.8	-2.8	-23.6	-66.2	-68.3
Waist	7	2.89	6.52	6.90	0.11	10.16	10.27	53.19	37.5	0.0	78.2	326.4	401.9	5.8	-2.9	-22.8	-65.0	-67.8
Feet	7	0.72	1.23	3.36	0.03	2.54	2.33	12.06	37.6	75.3	106.0	177.2	535.8	2.3	-8.5	-42.7	-55.6	-103.1
Head	8	0.77	1.19	3.19	0.03	2.70	2.40	12.42	37.2	79.8	107.6	225.2	352.0	-0.3	-25.9	-28.3	-47.0	-75.2
Shoulder	8	5.59	15.76	2.16	0.21	19.69	15.80	81.85	36.5	71.1	106.5	296.2	371.6	25.6	-4.2	-25.0	-66.5	-68.5
Waist	8	2.57	6.25	2.95	0.10	9.05	8.09	41.93	36.8	0.0	77.2	193.6	337.8	9.0	-6.0	-25.6	-53.4	-67.0
Feet	8	0.77	1.25	3.28	0.03	2.71	2.48	12.85	36.8	73.6	111.0	179.9	307.9	4.1	-8.7	-45.2	-54.5	-73.7

6.3.3 Subject 2 (72 kg), low pass filtered

Signal	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Head	1	0.43	0.99	3.08	0.02	1.52	1.40	7.27	103.2	74.0	130.9	28.7	235.3	-13.2	-25.3	-29.7	-38.9	-71.6
Shoulder	1	2.00	4.00	3.37	0.07	7.05	6.94	35.97	99.3	71.2	28.7	123.8	257.2	-3.8	-4.5	-18.0	-24.3	-67.0
Waist	1	0.18	0.33	3.57	0.01	0.64	0.60	3.09	101.2	19.2	128.4	70.6	250.9	-26.6	-27.9	-34.4	-35.1	-84.0
Feet	1	1.65	2.62	3.21	0.06	5.80	5.93	30.70	101.0	70.3	32.8	127.1	260.7	-11.4	-11.8	-15.7	-26.6	-69.9
Head	2	0.42	0.96	3.00	0.02	1.49	1.38	7.13	103.1	73.7	130.6	29.4	241.4	-14.2	-26.8	-29.6	-35.8	-70.6
Shoulder	2	2.44	3.65	3.22	0.09	8.61	8.52	44.11	26.3	80.0	108.0	55.6	286.7	-6.9	-7.7	-9.1	-12.6	-79.7
Waist	2	0.36	0.48	3.14	0.01	1.27	1.15	5.95	25.5	77.8	108.9	249.1	898.5	-10.2	-28.4	-32.5	-80.5	-89.1
Feet	2	3.04	6.26	2.71	0.11	10.69	9.96	51.61	27.1	80.2	57.1	108.9	294.1	-5.3	-8.1	-10.0	-15.1	-69.7
Head	3	0.41	0.90	3.49	0.02	1.46	1.34	6.94	102.6	131.5	72.3	30.8	274.0	-12.6	-24.9	-26.1	-26.6	-88.3
Shoulder	3	4.46	7.39	2.59	0.17	15.70	14.16	73.33	29.7	57.9	86.1	121.0	294.1	11.1	1.7	-3.4	-25.7	-73.0
Waist	3	0.61	1.07	2.82	0.02	2.13	1.87	9.71	30.5	83.2	242.0	313.0	380.7	-4.0	-31.2	-74.7	-77.2	-79.0
Feet	3	4.69	9.11	2.42	0.17	16.53	14.68	76.07	28.2	56.7	85.1	122.9	291.5	10.0	0.7	-4.6	-27.3	-71.9
Head	4	0.45	0.94	3.20	0.02	1.58	1.42	7.35	102.7	32.2	70.3	130.2	244.7	-13.5	-20.4	-25.6	-27.2	-76.1
Shoulder	4	6.84	12.54	2.44	0.26	24.09	20.88	108.14	32.8	61.6	106.9	243.4	314.3	14.7	3.8	-13.3	-51.0	-53.4
Waist	4	0.76	1.58	2.94	0.03	2.68	2.31	11.99	33.3	64.1	100.3	119.9	241.0	4.2	-25.8	-33.8	-34.9	-84.0
Feet	4	4.38	7.18	3.14	0.16	15.41	14.32	74.19	31.0	59.7	109.7	242.5	313.4	13.6	-1.0	-18.1	-59.8	-62.5
Head	5	0.48	0.98	2.99	0.02	1.68	1.49	7.72	102.8	34.0	70.2	130.3	257.5	-13.9	-18.0	-26.3	-27.2	-82.2
Shoulder	5	9.62	17.83	2.45	0.36	33.86	28.64	148.37	34.7	62.8	94.6	242.7	313.8	25.5	9.4	-2.9	-58.5	-61.2
Waist	5	0.93	2.07	2.89	0.03	3.26	2.79	14.44	35.4	73.3	109.6	664.8	732.7	-3.1	-26.6	-33.4	-82.2	-82.7
Feet	5	1.50	2.74	3.73	0.06	5.29	4.95	25.67	34.8	68.4	101.0	127.2	239.3	1.7	-5.1	-16.5	-33.4	-68.5
Head	6	0.50	0.99	3.17	0.02	1.75	1.56	8.08	36.1	102.8	71.6	130.3	723.4	-13.2	-13.9	-26.2	-27.1	-93.8
Shoulder	6	11.62	24.90	2.07	0.43	40.90	33.89	175.55	36.5	66.6	96.4	242.8	313.8	26.1	3.5	-3.8	-52.5	-55.3
Waist	6	1.03	2.03	2.53	0.04	3.62	3.07	15.88	36.9	74.6	107.1	239.5	311.1	7.3	-19.5	-30.9	-74.1	-77.1
Feet	6	1.80	3.15	3.39	0.07	6.33	5.77	29.89	36.1	71.3	98.1	136.6	244.3	7.5	-5.5	-17.0	-33.4	-68.6
Head	7	0.54	1.01	3.27	0.02	1.89	1.71	8.86	37.3	103.0	73.7	130.5	240.1	-10.6	-15.7	-28.6	-29.8	-71.9
Shoulder	7	14.32	42.40	1.94	0.53	50.44	41.23	213.58	37.7	74.0	105.7	241.9	313.3	30.4	4.2	-9.8	-47.1	-49.4
Waist	7	1.14	2.20	2.49	0.04	4.03	3.39	17.58	37.9	77.0	114.1	241.3	312.2	9.0	-16.0	-26.2	-71.6	-74.0
Feet	7	1.81	3.36	3.56	0.07	6.39	5.77	29.90	37.2	74.1	107.6	246.3	314.4	8.3	-2.5	-18.1	-68.7	-70.8
Head	8	0.82	1.27	3.13	0.03	2.89	2.53	13.09	37.6	116.9	80.3	236.8	308.6	0.0	-24.9	-25.5	-76.0	-78.4
Shoulder	8	14.08	41.26	2.09	0.52	49.57	40.71	210.90	37.4	72.7	104.1	242.4	313.4	31.2	3.4	-11.2	-53.4	-56.1
Waist	8	1.08	2.00	2.56	0.04	3.80	3.22	16.68	37.9	76.9	113.9	239.4	310.6	8.0	-15.8	-26.4	-70.2	-72.5
Feet	8	1.83	3.39	3.73	0.07	6.45	5.86	30.36	37.1	73.9	106.5	245.8	313.0	8.5	-2.4	-19.2	-69.5	-71.8

6.3.4 Subject 2 (72 kg), frequency weighted

Signal	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Head	1	0.35	0.66	3.57	0.01	1.23	1.21	6.26	102.7	74.1	135.8	0.0	431.3	-23.1	-30.6	-30.9	-41.2	-78.9
Shoulder	1	0.38	0.61	2.92	0.01	1.35	1.27	6.60	20.5	69.6	98.6	0.0	0.0	-22.1	-24.7	-30.5	0.0	0.0
Waist	1	0.08	0.07	3.33	0.00	0.26	0.24	1.22	19.1	76.1	106.7	221.8	532.9	-26.8	-52.8	-54.9	-74.2	-101.9
Feet	1	0.52	0.89	2.53	0.02	1.84	1.62	8.39	20.1	59.6	222.0	824.9	896.1	-16.7	-27.5	-66.5	-93.5	-93.7
Head	2	0.35	0.65	3.48	0.01	1.22	1.19	6.18	103.4	136.9	432.6	665.6	507.8	-23.9	-30.5	-82.5	-87.1	-87.4
Shoulder	2	0.84	1.38	2.31	0.03	2.96	2.53	13.12	25.2	62.8	92.5	158.1	269.6	-7.5	-24.0	-31.5	-53.8	-77.9
Waist	2	0.17	0.29	2.64	0.01	0.59	0.53	2.73	25.2	73.2	164.3	518.5	567.3	-11.0	-48.6	-67.5	-98.8	-99.2
Feet	2	1.11	1.77	2.12	0.04	3.92	3.29	17.05	24.6	56.8	86.2	284.6	368.0	-4.1	-20.3	-27.9	-76.0	-80.4
Head	3	0.35	0.65	3.72	0.01	1.25	1.19	6.19	103.6	137.3	34.1	427.6	506.2	-25.3	-28.8	-29.4	-82.2	-86.8
Shoulder	3	1.63	4.16	2.07	0.06	5.74	4.75	24.59	29.6	57.6	86.9	150.6	283.1	9.8	-11.4	-25.2	-54.0	-82.3
Waist	3	0.25	0.60	2.58	0.01	0.87	0.76	3.92	30.3	71.8	359.5	432.3	505.1	-8.6	-48.0	-90.3	-91.9	-92.8
Feet	3	1.82	4.24	2.07	0.07	6.42	5.26	27.27	28.0	56.7	86.5	154.6	211.0	8.0	-13.3	-27.8	-53.8	-65.4
Head	4	0.39	0.73	3.38	0.01	1.36	1.25	6.48	34.1	105.7	137.7	351.6	426.1	-23.4	-25.3	-30.9	-77.2	-81.1
Shoulder	4	2.42	6.81	1.99	0.09	8.51	6.95	35.98	32.6	60.5	105.4	239.0	315.6	16.0	-6.0	-34.3	-65.8	-68.1
Waist	4	0.28	0.75	2.61	0.01	1.00	0.85	4.41	33.3	62.8	111.4	198.5	553.4	-4.2	-42.9	-56.5	-74.6	-101.2
Feet	4	1.68	4.07	2.54	0.06	5.92	5.23	27.07	30.9	59.0	112.0	176.1	304.8	11.8	-13.6	-40.6	-57.7	-71.0
Head	5	0.42	0.80	3.35	0.02	1.48	1.32	6.85	35.1	105.3	137.4	212.1	352.6	-19.8	-25.0	-30.7	-58.4	-77.6
Shoulder	5	3.25	9.18	2.01	0.12	11.45	9.28	48.05	34.7	62.3	93.9	204.6	355.2	22.8	-4.1	-25.2	-67.6	-85.4
Waist	5	0.32	0.87	2.70	0.01	1.13	0.95	4.94	35.4	70.6	211.7	536.9	594.3	-5.9	-42.4	-75.9	-92.7	-93.4
Feet	5	0.44	0.90	3.06	0.02	1.56	1.40	7.24	34.7	68.2	104.7	160.9	230.7	-3.9	-22.5	-42.4	-56.1	-69.7
Head	6	0.45	0.83	3.51	0.02	1.57	1.41	7.29	36.7	105.8	137.7	425.4	544.3	-15.7	-25.4	-30.7	-82.2	-87.8
Shoulder	6	3.85	10.85	1.96	0.14	13.56	10.86	56.28	36.4	65.4	95.7	235.9	312.7	21.3	-11.6	-26.4	-65.6	-68.6
Waist	6	0.34	0.93	2.30	0.01	1.20	1.01	5.23	36.9	73.2	230.4	447.3	524.1	-0.7	-39.1	-75.7	-95.1	-96.2
Feet	6	0.55	1.15	2.93	0.02	1.94	1.73	8.96	36.0	71.6	147.2	249.9	327.2	0.4	-24.3	-51.3	-70.7	-83.3
Head	7	0.49	0.86	3.46	0.02	1.72	1.56	8.07	37.7	104.9	137.7	425.7	700.1	-12.0	-25.6	-31.2	-81.5	-87.7
Shoulder	7	4.67	13.05	1.73	0.17	16.45	13.08	67.77	37.6	72.1	306.9	375.7	443.1	25.9	-13.1	-68.3	-70.1	-71.4
Waist	7	0.37	1.00	2.28	0.01	1.30	1.09	5.65	37.8	75.6	236.3	314.4	382.0	1.4	-36.9	-75.7	-83.1	-85.0
Feet	7	0.53	1.02	3.03	0.02	1.86	1.71	8.85	37.1	74.1	116.4	433.5	500.6	0.6	-22.4	-46.4	-85.4	-87.0
Head	8	0.79	1.21	3.17	0.03	2.79	2.43	12.60	37.7	82.0	113.2	214.6	357.4	-0.5	-25.9	-28.6	-53.7	-71.0
Shoulder	8	4.62	12.92	1.94	0.17	16.28	12.96	67.12	37.4	71.5	438.6	506.4	572.9	24.9	-14.0	-71.8	-72.9	-73.7
Waist	8	0.35	0.94	2.33	0.01	1.22	1.03	5.35	37.8	75.9	112.5	237.7	456.4	-0.5	-36.4	-54.8	-74.7	-103.8
Feet	8	0.54	1.05	3.21	0.02	1.89	1.74	9.01	37.0	74.1	119.6	438.6	506.9	-0.3	-22.6	-48.0	-80.5	-81.7

6.3.5 Subject 3 (86 kg), low pass filtered

Signal	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Head	1	0.21	0.43	6.41	0.01	0.73	0.74	3.84	102.7	63.9	0.0	130.1	252.6	-21.7	-34.1	-36.9	-37.6	-80.5
Shoulder	1	1.60	3.15	3.56	0.06	5.63	5.74	29.75	100.6	73.2	30.0	127.7	265.0	-5.0	-8.4	-20.9	-22.3	-73.5
Waist	1	10.67	2.15	8.49	0.40	37.57	59.05	305.90	0.0	104.1	220.5	925.2	1000.0	15.5	-17.8	-48.5	-58.0	-58.0
Feet	1	2.10	3.95	2.70	0.08	7.41	7.13	36.91	73.5	102.9	36.6	0.0	129.1	-6.2	-9.8	-12.2	-18.1	-29.6
Head	2	0.13	0.25	5.46	0.01	0.48	0.45	2.35	102.8	24.1	62.9	130.3	235.1	-27.2	-33.7	-39.3	-44.3	-85.7
Shoulder	2	2.16	2.82	3.09	0.08	7.62	7.34	38.00	29.0	74.9	108.4	233.3	306.3	-6.1	-11.3	-12.4	-59.9	-62.5
Waist	2	5.11	4.61	6.28	0.19	17.99	21.52	111.49	28.2	0.0	77.6	109.6	265.3	2.1	-0.7	-12.5	-19.3	-63.8
Feet	2	3.73	7.17	2.57	0.14	13.15	12.03	62.29	28.0	78.5	108.1	235.2	308.3	-1.6	-6.4	-15.9	-58.5	-61.0
Head	3	0.21	0.32	4.23	0.01	0.73	0.68	3.55	29.5	102.4	55.3	129.4	253.3	-24.4	-26.3	-36.7	-41.9	-82.6
Shoulder	3	4.11	7.13	2.44	0.15	14.46	12.76	66.10	31.3	61.9	91.1	243.4	314.2	6.8	-5.6	-12.7	-54.1	-56.7
Waist	3	10.22	11.04	10.22	0.38	35.99	36.32	188.13	0.0	34.3	89.3	118.8	253.6	7.2	6.9	-5.6	-14.5	-53.2
Feet	3	5.65	10.36	2.28	0.21	19.91	17.43	90.29	29.2	58.6	86.8	242.4	313.5	10.8	-1.3	-6.6	-55.8	-58.5
Head	4	0.32	0.44	8.92	0.01	1.13	1.50	7.77	103.0	33.6	130.9	263.2	337.1	-21.9	-23.9	-38.8	-83.7	-86.6
Shoulder	4	5.98	11.45	2.48	0.22	21.06	18.13	93.94	33.7	62.0	102.1	242.8	313.9	18.4	4.9	-15.1	-58.4	-61.2
Waist	4	3.78	7.30	14.01	0.14	13.30	24.75	128.21	34.5	0.0	71.4	105.6	265.7	-2.0	-10.1	-11.3	-15.0	-60.6
Feet	4	6.72	12.74	2.61	0.25	23.67	21.07	109.14	31.7	60.3	109.5	244.3	314.8	19.4	1.7	-16.7	-55.7	-58.3
Head	5	0.23	0.34	4.46	0.01	0.80	0.75	3.90	36.4	103.8	0.0	72.4	131.9	-18.7	-27.1	-32.2	-39.5	-41.9
Shoulder	5	7.75	15.27	2.20	0.29	27.27	22.98	119.06	35.8	65.9	101.2	244.8	315.2	19.5	1.9	-8.0	-50.6	-53.0
Waist	5	2.51	6.54	3.12	0.09	8.83	7.42	38.42	36.5	72.9	110.3	211.4	282.4	7.4	-18.5	-23.6	-59.8	-62.4
Feet	5	1.89	3.28	4.20	0.07	6.65	6.41	33.18	35.4	71.0	100.8	241.7	312.9	6.6	-8.5	-9.9	-67.0	-69.4
Head	6	0.22	0.33	4.10	0.01	0.76	0.72	3.74	37.8	103.3	0.0	130.0	265.2	-18.1	-33.3	-42.0	-47.0	-90.3
Shoulder	6	9.49	21.26	2.11	0.35	33.42	28.03	145.20	37.4	70.1	100.6	241.5	312.9	24.0	0.6	-8.9	-54.6	-57.3
Waist	6	3.29	6.55	3.18	0.12	11.58	10.23	53.01	38.1	113.9	77.3	0.0	273.8	8.3	-5.2	-9.1	-11.7	-63.0
Feet	6	1.77	3.49	3.70	0.07	6.22	5.85	30.33	37.3	74.5	103.2	247.7	317.4	-0.2	-6.9	-12.9	-56.1	-58.7
Head	7	0.41	0.55	6.13	0.02	1.45	1.70	8.81	38.8	104.0	0.0	77.7	131.4	-7.4	-18.3	-26.9	-33.8	-33.9
Shoulder	7	11.26	30.38	2.03	0.42	39.65	32.75	169.65	38.7	76.6	112.1	241.5	312.7	28.2	3.4	-10.4	-50.1	-52.5
Waist	7	3.08	5.78	2.87	0.11	10.86	9.44	48.91	39.2	117.2	79.0	0.0	266.6	12.2	-1.8	-5.1	-16.9	-68.2
Feet	7	2.10	4.48	3.74	0.08	7.41	6.87	35.59	38.1	75.2	106.0	236.9	309.0	6.3	3.0	-14.2	-67.1	-70.2
Head	8	0.73	1.66	4.41	0.03	2.56	2.58	13.34	38.7	117.0	89.4	0.0	239.5	1.1	-29.3	-29.6	-35.7	-82.5
Shoulder	8	11.27	29.43	2.06	0.42	39.67	33.03	171.08	38.5	75.9	114.2	240.1	311.5	29.2	3.7	-11.4	-55.5	-58.5
Waist	8	3.11	7.23	3.11	0.12	10.93	9.63	49.90	39.2	78.6	117.4	0.0	273.7	11.7	-1.2	-12.9	-18.1	-66.6
Feet	8	2.44	4.64	3.85	0.09	8.58	8.07	41.78	37.7	74.9	106.5	245.5	315.6	9.2	1.6	-13.9	-62.5	-65.0

6.3.6 Subject 3 (86 kg), frequency weighted

Signal	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Head	1	0.17	0.29	6.36	0.01	0.62	0.65	3.38	101.8	54.1	0.0	134.8	341.7	-30.1	-36.3	-37.2	-37.5	-77.8
Shoulder	1	0.33	0.47	2.81	0.01	1.15	1.06	5.47	20.2	69.6	97.8	209.4	825.3	-21.5	-28.1	-32.4	-66.2	-101.6
Waist	1	5.14	2.14	12.20	0.19	18.09	36.42	188.66	0.0	926.2	1000.0	0.0	0.0	5.3	-103.5	-103.6	0.0	0.0
Feet	1	0.64	1.14	2.20	0.02	2.27	1.95	10.08	21.8	65.3	825.1	896.2	965.5	-14.8	-25.6	-88.3	-88.5	-88.6
Head	2	0.12	0.18	5.99	0.00	0.42	0.41	2.11	30.6	100.6	267.8	348.4	432.7	-35.8	-36.5	-69.8	-77.3	-83.2
Shoulder	2	0.81	1.64	2.07	0.03	2.83	2.36	12.21	26.1	60.3	94.8	277.8	827.4	-3.8	-24.8	-33.0	-80.9	-99.0
Waist	2	2.05	4.38	5.59	0.08	7.23	8.14	42.14	27.2	0.0	73.0	328.9	404.3	0.5	-14.1	-29.2	-69.9	-71.8
Feet	2	1.41	2.38	1.99	0.05	4.96	4.10	21.25	25.7	58.2	86.4	163.4	367.2	0.6	-19.8	-25.4	-48.7	-79.9
Head	3	0.19	0.26	4.45	0.01	0.68	0.64	3.30	32.3	100.9	273.4	355.6	435.1	-24.6	-36.1	-70.0	-77.9	-81.5
Shoulder	3	1.51	4.10	1.95	0.06	5.30	4.33	22.42	30.9	60.2	91.9	179.7	303.6	7.2	-16.4	-32.6	-51.3	-72.8
Waist	3	3.42	6.19	8.95	0.13	12.03	13.39	69.35	31.9	0.0	73.9	654.9	726.6	5.0	-4.3	-24.0	-84.8	-85.7
Feet	3	2.20	5.71	1.88	0.08	7.76	6.32	32.73	29.0	58.6	88.0	175.3	309.6	9.3	-14.5	-29.7	-51.5	-67.8
Head	4	0.29	0.36	10.37	0.01	1.01	1.33	6.87	34.0	101.3	353.0	611.4	686.3	-22.3	-30.1	-77.6	-87.1	-91.6
Shoulder	4	2.07	5.83	2.25	0.08	7.30	5.92	30.66	33.7	61.8	107.7	189.7	302.7	15.0	-8.5	-36.6	-58.5	-70.7
Waist	4	1.39	2.72	10.37	0.05	4.90	7.37	38.16	34.0	0.0	70.6	720.2	791.3	-6.0	-9.8	-26.0	-96.0	-96.8
Feet	4	2.58	6.26	2.25	0.10	9.08	7.76	40.20	31.6	59.5	112.4	183.0	371.4	17.3	-11.3	-40.7	-53.2	-74.7
Head	5	0.21	0.30	4.53	0.01	0.76	0.71	3.68	36.7	99.6	128.1	266.1	347.9	-21.8	-37.4	-44.3	-69.1	-77.8
Shoulder	5	2.58	7.11	1.90	0.10	9.08	7.29	37.75	35.7	64.7	100.6	166.3	239.1	17.4	-11.3	-31.6	-54.7	-63.8
Waist	5	0.85	2.33	2.54	0.03	3.01	2.51	12.98	36.5	0.0	72.9	115.7	388.9	2.9	-30.8	-34.3	-52.1	-90.2
Feet	5	0.58	0.89	3.95	0.02	2.04	1.97	10.20	35.3	69.5	100.8	164.8	318.6	2.7	-25.2	-34.1	-50.7	-84.7
Head	6	0.21	0.29	3.94	0.01	0.74	0.70	3.60	37.8	100.3	132.7	268.1	440.3	-17.1	-39.2	-45.2	-70.1	-82.8
Shoulder	6	3.05	8.45	1.84	0.11	10.75	8.58	44.46	37.4	68.2	98.0	565.5	633.4	19.3	-14.6	-29.3	-83.3	-84.1
Waist	6	1.04	2.77	2.61	0.04	3.65	3.04	15.76	37.9	0.0	77.8	118.2	188.8	-0.1	-23.0	-31.3	-39.8	-52.2
Feet	6	0.46	0.77	4.02	0.02	1.63	1.55	8.02	37.0	73.2	103.0	157.8	547.7	-3.3	-23.5	-37.8	-49.4	-100.8
Head	7	0.39	0.50	6.17	0.01	1.38	1.61	8.33	38.9	101.0	131.4	258.2	348.5	-12.7	-30.1	-39.5	-67.7	-77.8
Shoulder	7	3.56	9.98	1.86	0.13	12.52	9.98	51.72	38.6	74.7	858.1	929.6	1000.0	22.9	-14.9	-90.0	-90.2	-90.2
Waist	7	0.95	2.51	2.77	0.04	3.34	2.84	14.69	39.1	0.0	80.6	121.9	191.8	0.8	-25.5	-31.0	-38.4	-54.2
Feet	7	0.51	0.91	3.52	0.02	1.81	1.69	8.77	38.0	74.9	106.0	150.5	221.7	-0.7	-17.0	-40.5	-50.1	-64.5
Head	8	0.72	1.61	4.21	0.03	2.53	2.52	13.05	38.6	94.1	251.3	334.5	526.2	-0.6	-36.2	-67.0	-74.4	-81.9
Shoulder	8	3.54	9.94	1.92	0.13	12.48	9.99	51.73	38.5	75.1	830.5	899.0	966.4	21.5	-14.5	-72.2	-72.4	-72.5
Waist	8	0.95	2.45	2.48	0.04	3.34	2.81	14.57	39.1	80.2	0.0	145.7	317.0	0.6	-25.6	-25.9	-46.7	-73.7
Feet	8	0.66	1.26	3.48	0.02	2.32	2.14	11.10	37.6	74.5	106.4	151.7	220.2	3.7	-17.1	-39.7	-50.1	-64.3

6.3.7 Subject 4 (72 kg), low pass filtered

Signal	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Arm	0	0.02	0.02	4.87	0.00	0.06	0.06	0.29	0.0	54.4	94.7	120.8	259.9	-45.2	-56.9	-57.3	-60.3	-105.8
Shoulder	0	0.02	0.02	5.35	0.00	0.05	0.05	0.27	0.0	93.5	55.8	120.9	242.5	-50.7	-56.5	-57.3	-60.1	-99.7
Waist	0	0.01	0.01	3.69	0.00	0.02	0.02	0.09	0.0	51.7	120.3	94.8	252.6	-50.3	-66.2	-68.5	-69.9	-114.6
Ribs	0	0.00	0.01	4.51	0.00	0.02	0.02	0.08	0.0	50.9	94.3	120.4	249.5	-51.4	-66.2	-70.9	-73.6	-114.6
Arm	1	3.05	5.29	2.13	0.11	10.72	8.87	45.97	26.6	61.8	106.5	238.1	307.9	-1.2	-9.7	-11.4	-60.3	-62.6
Shoulder	1	1.45	3.07	3.33	0.05	5.12	4.98	25.80	99.2	71.2	28.5	126.0	258.7	-3.0	-8.5	-23.1	-24.4	-71.3
Waist	1	0.31	0.53	3.68	0.01	1.08	1.04	5.40	21.3	70.0	97.7	121.4	255.6	-24.7	-26.1	-26.4	-38.6	-81.5
Ribs	1	0.45	0.60	3.00	0.02	1.58	1.45	7.50	16.4	59.9	243.3	310.8	375.8	-21.2	-29.1	-74.0	-76.3	-77.9
Arm	2	11.24	32.20	1.96	0.42	39.58	32.34	167.51	32.6	66.7	97.4	244.2	314.8	24.3	-4.7	-13.0	-48.4	-50.7
Shoulder	2	1.95	3.77	3.30	0.07	6.88	6.84	35.41	77.2	31.1	106.9	0.0	0.0	-6.4	-11.9	-14.0	0.0	0.0
Waist	2	1.00	1.19	4.84	0.04	3.53	3.51	18.16	0.0	27.8	76.4	107.2	216.0	-13.3	-13.5	-22.9	-30.5	-67.8
Ribs	2	1.15	2.20	2.43	0.04	4.05	3.44	17.79	24.0	50.9	78.5	825.8	896.2	-1.7	-19.0	-30.8	-102.6	-102.9
Arm	3	18.53	51.76	2.77	0.69	65.25	53.27	275.96	36.4	69.9	107.3	246.3	316.1	34.1	2.0	-5.9	-46.6	-48.8
Shoulder	3	3.19	4.52	2.97	0.12	11.22	10.37	53.73	29.6	59.5	85.9	240.6	312.1	0.5	-7.2	-8.3	-57.6	-60.4
Waist	3	1.49	2.89	3.42	0.06	5.25	4.82	24.96	30.5	62.0	91.2	242.6	313.5	3.4	-18.5	-28.6	-66.9	-69.5
Ribs	3	2.23	5.93	2.18	0.08	7.85	6.48	33.56	29.5	57.4	206.8	274.4	341.0	6.9	-11.7	-62.8	-65.3	-67.1
Arm	4	22.81	64.48	2.22	0.85	80.32	64.79	335.59	38.9	75.6	111.6	229.3	302.9	37.6	4.6	-8.3	-48.8	-52.9
Shoulder	4	4.74	8.34	2.49	0.18	16.70	14.59	75.56	32.0	60.1	106.5	239.2	311.2	13.8	4.4	-18.5	-60.6	-63.6
Waist	4	1.95	4.33	2.95	0.07	6.86	6.05	31.34	33.4	64.6	109.2	239.6	311.1	10.4	-11.5	-32.4	-67.5	-70.1
Ribs	4	3.08	8.74	1.96	0.11	10.84	8.80	45.57	32.6	60.7	116.1	215.1	284.4	11.6	-9.3	-42.1	-62.9	-65.7
Arm	5	21.89	60.51	2.30	0.82	77.06	62.56	324.04	41.2	81.6	121.0	232.5	304.2	37.1	8.1	-3.9	-42.3	-44.7
Shoulder	5	6.59	12.10	2.26	0.25	23.20	19.56	101.33	34.4	62.2	91.8	120.0	235.6	22.0	6.8	-4.8	-26.7	-65.2
Waist	5	2.34	5.21	2.99	0.09	8.23	7.27	37.64	35.2	69.5	106.6	252.7	326.0	8.4	-12.7	-31.8	-73.9	-76.2
Ribs	5	3.52	9.88	1.95	0.13	12.39	9.96	51.59	34.6	62.1	210.2	279.8	347.2	15.2	-12.8	-60.4	-63.1	-64.9
Arm	6	23.54	65.54	1.83	0.88	82.88	66.56	344.80	42.6	84.6	120.9	240.2	311.3	39.7	8.1	-13.1	-46.9	-49.5
Shoulder	6	8.26	15.89	1.95	0.31	29.07	23.96	124.10	35.9	66.5	94.4	247.1	316.8	20.7	-1.7	-5.7	-50.0	-52.3
Waist	6	2.66	5.93	2.78	0.10	9.36	8.21	42.55	36.7	73.3	107.8	0.0	0.0	13.9	-10.0	-27.5	0.0	0.0
Ribs	6	3.80	10.62	1.93	0.14	13.38	10.66	55.25	35.8	63.0	210.1	279.8	347.1	16.5	-16.8	-58.7	-61.4	-63.3
Arm	7	24.11	67.62	1.81	0.90	84.89	68.58	355.27	44.3	88.5	124.6	232.0	300.0	40.1	12.5	-18.6	-45.9	-48.4
Shoulder	7	9.75	27.74	2.12	0.36	34.32	27.88	144.43	37.4	70.5	95.5	242.7	313.7	26.6	-3.5	-13.3	-55.3	-58.0
Waist	7	2.90	6.36	2.65	0.11	10.19	8.99	46.58	38.1	76.7	114.9	218.0	286.6	14.1	-8.2	-25.0	-56.7	-59.4
Ribs	7	4.54	12.58	1.70	0.17	15.99	12.67	65.61	37.3	69.3	0.0	111.8	210.1	22.0	-24.0	-26.1	-28.9	-65.4

6.3.8 Subject 4 (72 kg), frequency weighted

Signal	I	RMS	P2P	CREST	A8	eVDV	VDV	VDV8	f1	f2	f3	f4	f5	M1	M2	M3	M4	M5
Arm	0	0.01	0.00	4.11	0.00	0.02	0.02	0.10	0.0	266.1	548.1	637.3	1000.0	-58.0	-97.3	-119.6	-119.7	-125.2
Shoulder	0	0.01	0.00	4.68	0.00	0.02	0.02	0.10	0.0	265.2	547.1	636.2	1000.0	-58.4	-97.9	-119.0	-120.1	-124.4
Waist	0	0.00	0.00	4.01	0.00	0.01	0.00	0.03	0.0	46.2	109.9	314.8	464.3	-68.4	-79.9	-91.6	-117.5	-130.5
Ribs	0	0.00	0.00	4.14	0.00	0.01	0.00	0.02	0.0	468.6	547.3	616.7	682.6	-68.4	-128.6	-134.8	-137.4	-139.2
Arm	1	1.26	2.02	1.99	0.05	4.45	3.63	18.78	25.0	56.9	101.4	237.3	311.6	0.4	-20.5	-33.2	-68.4	-71.5
Shoulder	1	0.25	0.39	3.66	0.01	0.87	0.84	4.35	19.9	69.2	99.1	206.7	396.6	-26.4	-28.7	-30.8	-67.0	-96.3
Waist	1	0.12	0.14	3.00	0.00	0.44	0.39	2.04	19.3	68.0	221.3	545.4	502.7	-23.3	-43.7	-72.6	-103.4	-103.6
Ribs	1	0.24	0.34	2.62	0.01	0.83	0.71	3.65	18.1	51.0	247.8	397.8	550.3	-18.0	-40.6	-80.5	-105.7	-113.2
Arm	2	4.32	12.13	1.69	0.16	15.19	12.07	62.52	32.5	62.6	94.1	247.0	316.7	23.9	-16.7	-32.3	-64.6	-66.9
Shoulder	2	0.59	0.84	2.45	0.02	2.06	1.80	9.35	24.8	68.8	164.7	280.7	368.0	-11.9	-26.7	-51.3	-80.1	-83.9
Waist	2	0.38	0.77	4.66	0.01	1.33	1.26	6.51	25.3	183.2	793.3	863.6	932.0	-12.7	-66.7	-91.8	-92.1	-92.2
Ribs	2	0.57	1.58	2.30	0.02	2.00	1.63	8.47	24.4	51.0	168.7	895.2	965.3	-3.2	-32.3	-74.7	-105.4	-105.5
Arm	3	6.36	17.82	2.16	0.24	22.39	17.87	92.59	36.3	67.5	310.6	378.3	444.7	27.1	-16.3	-64.6	-66.3	-67.5
Shoulder	3	1.13	2.45	2.31	0.04	3.99	3.34	17.31	28.8	57.2	85.6	162.3	274.8	3.5	-16.0	-25.6	-51.1	-82.7
Waist	3	0.60	1.43	3.31	0.02	2.12	1.93	9.98	30.3	59.7	182.2	314.7	382.4	1.4	-31.5	-66.7	-79.7	-81.3
Ribs	3	0.92	2.61	2.04	0.03	3.25	2.62	13.59	29.7	58.1	279.6	347.9	414.4	2.5	-25.0	-77.0	-78.9	-80.4
Arm	4	7.29	20.55	1.93	0.27	25.65	20.37	105.49	38.9	74.2	832.5	899.8	966.6	30.1	-14.4	-66.9	-67.1	-67.2
Shoulder	4	1.68	4.54	2.16	0.06	5.91	4.85	25.13	32.0	59.8	109.9	181.6	373.4	12.1	-7.7	-38.5	-57.9	-74.0
Waist	4	0.72	1.84	2.65	0.03	2.53	2.20	11.39	33.4	63.7	195.2	925.0	1000.0	6.9	-26.2	-68.9	-85.8	-85.8
Ribs	4	1.17	3.31	1.81	0.04	4.13	3.30	17.11	32.7	60.6	140.5	218.2	287.6	7.8	-23.8	-65.2	-70.6	-73.3
Arm	5	6.52	18.50	1.94	0.24	22.96	18.30	94.81	41.2	80.3	122.5	266.9	340.7	28.7	-12.5	-28.7	-63.6	-65.9
Shoulder	5	2.23	6.22	2.00	0.08	7.84	6.36	32.97	34.3	62.4	94.4	170.0	237.6	15.2	-10.0	-30.0	-56.0	-66.0
Waist	5	0.81	2.09	2.95	0.03	2.86	2.50	12.97	35.3	68.2	207.6	297.2	371.6	8.3	-27.1	-73.4	-86.2	-88.3
Ribs	5	1.27	3.58	1.82	0.05	4.48	3.57	18.51	34.6	62.8	214.4	285.3	352.1	10.1	-25.8	-73.1	-76.5	-78.4
Arm	6	6.81	19.18	1.70	0.25	23.96	19.06	98.71	42.6	84.4	125.2	271.5	343.8	28.4	-12.9	-36.5	-62.6	-65.4
Shoulder	6	2.78	7.90	1.71	0.10	9.78	7.83	40.57	35.8	63.8	92.5	153.7	212.0	21.7	-12.0	-24.1	-53.9	-67.1
Waist	6	0.89	2.26	2.57	0.03	3.13	2.72	14.10	36.7	72.4	832.0	899.7	966.6	9.1	-28.0	-82.0	-82.2	-82.3
Ribs	6	1.33	3.74	1.86	0.05	4.69	3.73	19.31	35.8	64.9	219.8	287.9	353.8	10.0	-31.6	-69.0	-71.7	-73.5
Arm	7	6.66	18.62	1.60	0.25	23.46	18.59	96.29	44.3	87.9	176.8	462.9	728.1	31.3	-10.1	-43.5	-80.9	-85.7
Shoulder	7	3.22	9.05	2.48	0.12	11.32	9.03	46.78	37.4	69.1	312.0	379.7	445.9	19.2	-20.3	-67.5	-69.1	-70.4
Waist	7	0.93	2.25	2.89	0.03	3.27	2.87	14.86	38.1	76.4	115.4	197.4	333.8	9.0	-25.9	-51.2	-73.2	-85.2
Ribs	7	1.54	4.31	1.76	0.06	5.41	4.29	22.24	37.3	216.3	285.0	351.6	417.2	13.1	-68.6	-71.3	-73.1	-74.5