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SUMMARY REPORT ON TESTING PROTECTIVE INFLUENCE ON HUMAN ORGANISM AGAINST WIRELESS ROUTER RADIATION

FOR THE PRODUCT

Qi-Shield

Place and date: Ljubljana, 9th August 2019

No.: 42/19

Customer

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GENERAL INFORMATION ABOUT TESTING

Date of tests: 4th – 17th July 2019.

Place: BION Institute, Ljubljana, Slovenia, EU.

Purpose: Testing of an assumed protective influence of the product Qi-Shield (Figure 1, left) from Wi-Fi router radiation on the human organism.

Method: Measurement of various electrophysiological parameters (scientific clinical study design; see Table 1).

No. of exposures: 3 exposure groups per 15 volunteers (verum, sham and absolute control).

The claims of the manufacturer were verified scientifically by following the requirements of clinical tests on volunteers, meaning that the tests were:

- **Prospective** (general criteria for the effectiveness of the device's activity were determined in advance);
- **With placebo effect ruled out** (none of the volunteers knew whether they were exposed to the device's influence or not);
- **Blind** (the volunteers didn't know whether they drank influenced or ordinary tap water);
- **Randomized** (the decisions about control and real tests were made randomly).

Protocol: Scientific clinical study design (including double blind test) with 3 different exposures was performed:

1. Wi-Fi turned ON with the Qi-Shield - detecting protective influence of the device (= verum group),
2. Wi-Fi turned ON with the sham Qi-Shield - detecting influence of Wi-Fi radiation (sham group = relative control group),
3. Wi-Fi turned OFF with the sham Qi-Shield - detecting influence of background radiation with no active Wi-Fi router in vicinity and with sham Qi-Shield (no exposure = absolute control group).

Every single measurement lasted 30 minutes during which volunteers sat in a comfortable wooden chair (Figure 1, right). Each volunteer attended the measurements twice at the same hour of the day. Both the Qi-Shield device and the sham one looked the same so that neither the test assistant nor the volunteers knew which device is used at a particular time. Wi-Fi router was hidden under the cardboard box so that even the test assistant didn't know which of the 3 possible exposures was tested at particular time.



Figure 1: (a) Specimen of the Qi-Shield device used for testing (left). (b) During the measurements volunteers sat in a comfortable wooden chair with electrodes attached to both hands and Qi-Shield and Wi-Fi router placed 1 m away from them (right).

RESULTS WITH DISCUSSION

Statistical analysis of the measured physiological parameters demonstrated significant differences between the verum, sham and absolute control groups in all seven parameters: muscle activity, heart rate, skin conductance, respiration rate, finger temperature, heart rate variability and thorax expansion difference (Friedman test, Table 1). The strongest influence of the tested product was demonstrated on the skin conductance, heart rate variability and thorax expansion depth, as there were statistically significant differences during both halves of the measurements.

Table 1: p-values for the Friedman test based on one-minute medians for each parameter during the two parts of measurements. Holm-Bonferroni correction for multiple comparisons is applied to the p-values in the table. Values shaded in green represent statistically significant differences between at least two out of three groups ($p < 0.05$). Marks: EMG – muscle activity, HR – heart rate, SC – skin conductance, RR – respiration rate, TMP – finger temperature, HRV – heart rate variability, TED – thorax expansion depth.

	0-15 min	15-30 min
EMG	0.253	0.002
HR	0.069	0.002
SC	0.000	0.000
RR	0.114	0.018
TMP	0.449	0.000
HRV	0.011	0.003
TED	0.014	0.002

Table 2: p-values of the post-hoc test (Wilcoxon signed-rank test) based on one-minute medians for each parameter during the two parts of measurements. Holm-Bonferroni correction for multiple comparisons is applied to the p-values in the table. Values shaded in green represent statistically significant differences between two of the selected treatments ($p < 0.05$). Marks: EMG – muscle activity, HR – heart rate, SC – skin conductance, RR – respiration rate, TMP – finger temperature, HRV – heart rate variability, TED – thorax expansion depth.

	0-15 min			15-30 min		
	Wi-Fi ON + Qi-Shield Wi-Fi OFF + sham dev.	Wi-Fi ON + sham dev. Wi-Fi OFF + sham dev.	Wi-Fi ON + Qi-Shield Wi-Fi ON + sham dev.	Wi-Fi ON + Qi-Shield Wi-Fi OFF + sham dev.	Wi-Fi ON + sham dev. Wi-Fi OFF + sham dev.	Wi-Fi ON + Qi-Shield Wi-Fi ON + sham dev.
EMG	1.000	1.000	1.000	0.040	0.028	1.000
HR	1.000	0.094	0.358	0.034	0.040	1.000
SC	0.052	0.061	0.030	0.028	1.000	0.028
RR	0.124	1.000	1.000	0.341	1.000	0.030
TMP	0.913	1.000	1.000	0.028	0.749	0.028
HRV	0.341	0.040	1.000	1.000	0.030	0.070
TED	0.198	0.108	0.605	0.082	0.044	0.307

Only statistical significances are presented. For the customer, the elaborated results for all measured parameters will be available in the detailed extended report.

CONCLUSION

The scientific testing of the supposed protective influence of the product Qi-Shield on human organism against wireless router radiation demonstrated multiple statistically significant effects. Electrophysiological parameters of 15 volunteers were monitored with three different exposure groups: verum, sham and absolute control (n=15 for each group).

The Qi-Shield device demonstrated the most conspicuous influence on skin conductance. In general, the product influence increased volunteers' relaxation. On the other hand, the sham group (effect of the Wi-Fi) indicated a trend with lesser relaxation when compared to the absolute control (with Wi-Fi OFF).

Based on sufficient statistically significant differences between the verum and the sham exposed group demonstrated in the testing of the protective influence of the product *Qi-Shield*, we acknowledge that the product meets all the criteria required to obtain the *Certificate of Protective Influence on Human Organism against wireless router radiation* No. 0301.

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