IIREC

International Institute for Research on
Electromagnetic Compatibility

Salzburg - Austria

Biophysical examination of product effectiveness
Somavedic Medic

a) Effect in a geopathic and technically disturbed magnetic field
b) Effect on water

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The spectroscopic method of phase coherence used to produce this report has been under scientific scrutiny and is not a generally accepted method for examining water.

However, this procedure was verified in blind testing of 8 samples within one of the University of Kassel projects (Report No. 112/2009 of 30 November 2009). The databases used to interpret the results have an empirical basis which is recognized at individual points only in terms of university science. Statements in this area may in no way be construed as medical or pharmacological ones or as a promise of therapeutic effect.

1. Subject of examination

The IIREC was commissioned by Somavedic Technologies s.r.o. to examine the effects of Somavedic Medic through objective measurements (using physical measuring instruments, independent of the subjective human sensitivity). The below-described testing was performed to verify the product effectiveness in the following areas as indicated by the producer:

1. Improving the environment in geopathic zones
2. Improving the environment in areas frequented by large numbers of people on daily basis
3. Improving the environment in motor vehicles (passenger cars, trucks)
4. Defence against parasites, viruses, bacteria and fungi

Based on the experience of the IIREC, the procedure of grid measuring of the vertical component of magnetic induction in a static (DC) and extremely low frequency (ELF) magnetic field (range of ± 3 dB up to 18 Hz) with an evaluation of gradient divergence of the measured quantity is suitable to demonstrate versatile improvement of the environment by equalizing the gradients of the magnetic field ("magnetic field equalization"). Based on product's effect on magnetic field disturbances due to both geopathic and technical reasons, this study examined the questions asked by the users:

- How reliable are the effects produced by the device?
- Can the device effect be affected by interference?
- Can the device effect persist for a longer period of time?

Answers to these questions are a prerequisite for granting the IIREC Biophysical Seal.

In order to explain the product's effectiveness against microbes and parasites using biophysical methods, a water sample, tested for resonant frequencies, which are known for occurrence of these pests, was subsequently exposed to the effect of the product.

A specimen sent by the producer (cf. Annex 1, Fig. 1) was used as the test unit. The device was always connected to the mains at a distance of 50 cm from the measuring field. The space above a geological anomaly (deformation) and a relatively uniform background for the operation of a smart phone (iPhone) were used as the test areas for the exposure of the magnetic field in the room/space to the effect of the

product. Both the areas were located on the ground floor of the Institute. A wooden measuring grid with punched holes (11x11 measurement points, see Fig. 1) were used as the measuring field.

Furthermore, the effect of the device was tested in a passenger car (Ford Fiesta) where the unit was connected to the cigarette lighter power adapter in the vehicle cabin with the engine running. In this case, the measuring grid was placed on the driver's seat.

Natural (geological) and technical (iPhone, passenger car) disturbances of the magnetic field affecting the field at the point of measurement can be manifested in different frequency ranges. However, it is necessary to bear in mind that all measurements and effects described herein only apply to DC and ELF fields in the specified frequency range. Therefore, no data on the high-frequency electromagnetic field of the mobile phone was recorded; however, the extremely low modulations in the static range and in the ELF range were captured.

2. Examination of the effects in the magnetic field

From the biological point of view, the magnetic field is particularly important because it permeates our body,

can be significantly shielded, affects all life processes and directly affects particularly the ions, electrically charged particles in the body (e.g. sodium, potassium, calcium, magnesium, zinc and many others in our cells, iron in the red blood pigment, etc.). Also, the signals contained in our intracellular and bodily fluids are magnetic in nature.

Examination in the magnetic field is therefore the first choice when testing coherent action of resonant products. (Coherence in physics means a firm relationship of phases between the oscillations of several individual elements. Coherence is therefore a principle which leverages microscopic effects, e.g. causing normal light become laser light.)

2.1 Methods of measurement and evaluation

Test measurements were taken using the IIREC measuring grid method in a static and an ELF magnetic field. The measured quantity was the vertical component of magnetic induction (in microtesla units – μT). A test field of 0.5 m x 0.5 m was always defined at the measurement site. There were 11 x 11 = 121 measuring points at a distance of 5 cm apart in this measuring field.

The Projekt Elektronik (Berlin) Teslameter 05/40 precision digital measuring device was used as a measuring device to determine magnetic induction in a static and an ELF field (range of ±3 dB up to 18 Hz). The Voltcraft VC-960 multimeter served as a data carrier. The most important data of this measuring system are recorded in Table 1.

The wooden measuring grid with holes includes a probe holder sliding on a trolley. This measuring assembly enables safe approximation of the probe to each measured point through inclination and possible rotation. This ensures optimum measurement accuracy. For measurements using a mobile phone this measuring device has a pull-out section. When this section is pulled in, the mobile phone is located under the measuring surface, in the middle of the measuring field.

	Precision Teslameter 05/40
Total range	± 100 µT
Resolution	0.1 µT (with the data carrier 0.01 µT)
Linearity deviation	±0,3 % of the measured value at 40 µT
Frequency range	±3 dB up to 18 Hz
System of sensors	Fluxgate, direction sensitive

Table 1: Important technical specifications of the used Teslameter:

Graphical evaluation and representation of the measured data was carried out using the Golden Software's Surfer data analysis tool. The readings taken at each of the measuring points were evaluated by numerical interpolation and represented as a "map" of the magnetic field on the measuring surface of 0.5 m x 0.5 m. The points of the same induction are interconnected by lines (isolines or contours). The axes of the coordinate system include length information in meters.

In the figures in Annex 1, the areas between isolines are colour-coded. The respective values of the vertical component of magnetic induction in µT can be determined from the colour scale. The "rainbow" spectrum is used for the most accurate representation in these figures. The contours are read in the same way as contours in geographical maps. If the lines are close together, it means a strong gradient. If they are located wide apart, it shows an area of weak gradients. The transition from strong to weak gradients causes biological irritation which is typical of geopathic zones. An equalized field is characterized by more or less uniform gradients. In order to immediately determine the effect of the product from the representation, differential charts were used. In these cases, the represented values are the differences between the readings taken when the tested product was in operation and out of operation, respectively. In order to

optimally represent the sign of change, these charts are three-coloured. The blue shades mean a decrease while the yellow shades mean an increase in the measured value. The third kind of representation shows the strength of the biologically effective disturbance for each measured point. From the mathematical and physical point of view, this is called Field Gradient Divergence (FGD). For more information see the explanatory notes to the figures in Annex 1 and in the following paragraphs.

2.2 Individual tests and their results

The first measurements always included the definition of the measuring field as such – without placing a source of disturbance or the tested product in it.

It was a geopathic field (Fig. 2) in the former case and in the latter case a neutral

measuring environment with the activated iPhone (Fig. 13). In the latter case, an additional measurement to detect the disturbance caused by a non-harmonized mobile phone (Fig. 14) followed. When performing measurements in a passenger car, the basic situation was the engine running and gears disengaged (Fig. 19). The last measurement was always a repeated measurement of the disturbed field after the activation of Somavedic Medic (Fig. 3, 15 and 20). The measurement with Somavedic Medic operated in a geopathic field was repeated after the device had been subjected to a stress test in an extremely inhomogeneous magnetic field (Fig. 4) and then again after its long-term effect on the geopathic zone (Fig. 5).

2.2.1 Test in a geopathic field

Comparison of the results of measurements performed in a geopathic environment (Fig. 2) and the same measuring field after the activation and 24-hour operation of Somavedic Medic (Fig. 3) clearly shows effective equalization of most field irregularities by the device. The evaluation of the differences (Fig. 6) clearly confirms the effect of the device. Weakening of the geopathic disturbing force under the influence of Somavedic Medic is also obvious in Fig. 10 compared with Fig. 9.

2.2.2 Stress test in an extremely inhomogeneous magnetic field

We know from experience that devices that are themselves suitable for effective equalization of the magnetic field lose their effect or even acquire the opposite effect if exposed to an extremely

inhomogeneous magnetic field. Therefore, a corresponding stress test is a standard part of the established testing procedures of the IIREC.

The stress test was conducted on the product by exposing the Somavedic Medic test unit for 72 hours to a magnetic field created by placing two 7 mT permanent magnets in an orthogonal position.

Then, the test unit was placed back in the original test field. The results of the subsequent field measurement are evident from Fig. 4. When performing measurement with the device activated, the field shows individual disturbance zones immediately after the exposure to stress, but the differential representation (Fig. 7) indicates the same effectiveness as before stress exposure. This implies that product exposure to a disturbed magnetic field did not impair its effectiveness. The change in the resulting field in comparison with the previous measurement can be explained by a variation of the natural environment; the originally occurring spatial anomaly in the field had been reliably attenuated.

2.2.3 Test of long-term effect

Another measurement in the geopathic field was performed 4 weeks after the Somavedic Medic unit had been placed in this field for the first time. The device had been in continuous operation for one week immediately before the measurement was performed. The result of the long-term effect can be described as optimal.

2.2.4 Test in a technically disturbed field (iPhone)

In this case, the measurement included three separate steps:

1. Measurement of the measuring environment proved presence of a more or less evenly graded magnetic field (Fig. 13).

2. Measurement of the effect of the iPhone in an active transmitting or receiving mode followed.

This resulted in noticeable disturbance directly above the smart phone (Fig. 14 and Fig. 19 compared with Fig. 13 and 18, respectively). The representation of the difference (Fig. 16) shows slight disturbance around the smart phone; its amplitude is located within the range of biological sensitivity.

3. Measurement 3 took place exactly as Measurement 2, in this case with the activated Somavedic Medic unit next to the measurement field. The field change (cf. Fig. 15 and Fig. 17) can indeed be explained by the operation of a harmonising unit. Also the evaluation of disturbing forces suggests an improvement (cf. Fig. 19 and 20).

2.2.5 Test in a passenger car

Measurement in the driver's seat of a selected passenger car (Ford Fiesta) always took place without a gear engaged, upon activation of electric equipment in the car. In the default condition, the magnetic field was severely disturbed (Fig. 21); the strong gradients in the driver's backrest relate to the car and seat structures. Naturally, such a strong variation can hardly be equalised by a product with such delicate effects, such as Somavedic Medic. However, the Somavedic Medic unit shortly connected to the car lighter power adapter managed to equalize one disturbance of a particular strength in the front part of the seat (see Fig. 22 and 24; compared with Fig. 21 and 23, respectively).

3. Effect on water

3.1 Measurement and evaluation methods

Quantum electro dynamics of water shows that signals are instilled in coherent zones of water molecules in a magnetic field, and parallel to these signals there are microwave frequencies in the ELF range. The coherent spectroscopy method developed by the IIREC enables tracking of these signals in the range of biologically effective fundamental frequencies from 0 to 100 Hz using microwave detection. Measurement is performed at (+) and (-) circular polarization of an impulse.

Empirical data that can be looked up in tables and databases show that from the biological point of view the signals measured in such a way can be attributed great significance. Thus we can find resonances to body organs and body control systems (including psychical and cognitive functions) according to Western and Eastern medicines (meridians, acupuncture points, Chakras), effect on germs and parasites, supramolecular structures in water, geopathic factors, as well as biological resonance frequencies of chemical elements.

The nature and details of such process are described in detail in Report No. 12/2015 focusing on examination of the Somavedic Atlantic unit specially designed for water treatment. The purpose of testing of the Somavedic Medic unit was to acquire evidence of possible effect of the unit on bacteria, viruses, fungi, parasites and their toxins in order to confirm or confute the requirement of the producer. The measurement sample was acquired by storing 1 litre of tap water in a glass bottle above an activated Somavedic Medic unit for 24 hours.

3.2 Results and their evaluation

The measurement results can be depicted as a spectrum into which the found resonances are recorded – as a resonance potential against basic frequencies from 0 to 100 Hz. Thus we obtained spectra of the

measured sample, described in Annex 2 (for (+) and (-) circular polarization of an impulse). For comparison we also developed relevant reference spectra (spectra of tap water stored without the effect of a Somavedic Medic unit). The frequency values are measured with the precision of +/- 0.5 Hz. Signals are significant provided that the resonance potential is at least 7.5 microvolt. Significance of the detected signals is shown in Table 2 on the following pages. It also reports changes in the signals as against the relevant reference measurement. As a rule, only significant signals were evaluated. Due to special assignment – establishing effect on malignant germs – also low-intensity signals of viruses, microbes and other parasites (or their toxins) were reported, provided that they could be clearly identified in the spectrum. The table shows that water exposed to the Somavedic Medic unit shows many resonances at frequencies that are, as well known, attributed to germs and parasites. The claim of the producer that the product provides defence against malignant germs can thus be endorsed.

Otherwise, the water sample affected by the unit shows other resonances which are important for the body control system. Further manifested are biologically effective resonances of major chemical elements (sodium, magnesium, cobalt, iodine…), but also resonances of geopathic zones (both lattice network crossings, and anomalies, such as water veins or deformations). In addition to the magnetic field measurement this can be viewed as another piece of evidence proving the effectiveness of the unit against geopathic stress.

Tab. 2 (p. 9 and the following): Characteristic resonances of a sample affected by the Somavedic Medic unit (compared to tap water) and their importance with special regard to effects against microbes and parasites.

Legend of symbols used:

(+) / (-) circularly polarized impulse

←/→ shift to a lower / higher frequency

+ / − sign of the signal (upward / downward deviation from the baseline)

↑/↓ re-emerging or strengthening signal / fading or weakening signal

↔ signal polarity inversion (sign change)

± the plus-minus sign

= equally strong signal

Resonance (Sign/fundamental	**Comparison with tap water**		**Importance from the biological point of view**
	Effect during	**Effect during**	

frequency in Hz)	(+) circular polarization	(-) circular polarization	
+1	=		Hip joint arthrosis, Varicella nosode; Meridian: heat; Acupuncture point: SI1 small intestine
+4.5		↔	Neurasthenia, bone structure; testicles, Low potency; skin control;
-23.5	↔↑		Cell frequencies: cell nucleus, nuclear particles, Central particles; peristalsis, motor system, multiple sclerosis; haemoglobin; water veins, deformations; the elements hafnium, tellurium
*25	+↔↑	-	Nerve centre, digestion centre; appetite regulation centre; Tendinitis; the element cerium
+26.5…27		↑	common cold, fibrosarcoma, verruca, mental composure; gallstone dissolution; Otitis externa, Tinnitus aurium, Eustachian tube, inflammation of the ear canal; lymph
+30…31	↑		**Effect against:** Histoplasma capsulatum 30.16; also for tooth root inflammation, septic wounds
-33.5…34	↑		**Effect against:** Pseudomonas aeruginos 33.29; Neisseria gonorrhea 33.52; Haemophilus influenzae 33.64; Proteus vulgaris 33.65; Gardnerella vaginalis 34.03; Corynebacterium diphtheriae 34.2
+35…36	↑	↑	**Effect against:** Treponema pallidum 34.71; Gaffkya tetragena 34.87; Lactobacillus acidophilus 34.90; Proteus mirabilis 34.89; Erwinia amylovora 34.97; Serratia marcescens 35.08; Schistosoma mansoni 35.3; Campylobacter pyloridis 35.46; Nocardia asteroides 35.52; E. coli 35.60; Besnoitia (lungs) prot. 35.71; Diplococcus pneumoniae 36.01; Diplococcus diphth. 36.1; Coxsackie (B-1 and B-4)
-36.5…37.5		↑	Meridian frequency: conceptual line; heat exchange control; the elements magnesium, cobalt, chlorine Effect against inflammation of upper jaw, and against:

			Measles virus 37.13; Epstein-Barr-Virus 37.77; Clostridium botulinum 36.28; C. septicum 36.38; Bacillus anthracis 36.43 and 36.50; Nocardia aster. 36.69; Salmonella paratyphi 36.76; Streptococcus pyogenes 36.79; Campylobacter 36.80; Streptococcus sp. 36.85; Strept. pneumoni 36.85; Salmonella paratyphi 37.0; Erwinia carotovora 37.26; Plasmodium falciparum s 37.31; Enterobacter aerogenes 37.4; Bacillus cereus 37.48; Histomonas meleagridis 37.76; Alpha streptococcus 37.76; Staphylococcus aureus 37.86
+45…45.5		↑	locomotive organs, gait defects, muscles, magnesium deficiency, thrombosis; the Root Chakra; alopecia diffusa, hair roots; enuresis nocturna; Uterine prolapse; the elements sodium, bismuth, niobium, platinum; **Effect against:** Taenia solium (Scolex) 44.65; Moniezia (Scolex) 44.78; Moniezia expansa 44.78; Hasstile sig. Tricolor (adult) 45.16; Sarcocystis 45.28; Multiceps serialis 45.57; Gastrothylax elongatus 45.45; Echinococcus granulosus 45.66; Ech. multiloc. 45.71
-46.5		↑	Shoulder joint, toe nail anomalies, growth disorders, varicose veins; lattice network crossings (Earth's magnetic field); the element caesium; **Effect against:** Dipylidium canium (Scolex) 46.21; Diphyllobothrium laturn (Scol.) 44.26; Hymenolepis diminuta 46.31; Trypanosoma cruzi (brain) 46.29; verruca FR 46.2; Taenia pisiformis (eggs) 46.75
-51	↑		Testicles; skin, control; lattice network crossings (Earth's magnetic field); the element aluminium
61.5	+↑	- ↔	Anxious neuroses; disrupted intestinal mucosa; small intestine
+63…63.5		↔	menses; peristalsis, motor system, Large intestine, impaired rectal function, laxatives; renal stones, atopic dermatitis; gall bladder; Geopathic anomalies: water veins, deformations
			Sympathetic and parasympathetic nerve control frequencies

-64.5…65 -65…65.5		↔	(65.0); large intestine, ear inflammation Ulcer; bowel incontinence / ileus; ischialgia, nape arthritis Strained tendons; hypoglycaemia; cornea and retina; spinal cord; urinary bladder; Psoriasis; water veins; the element iodine
+67.0		↑	Intervertebral discs, small intestine, duodenal ulcers; Aqueous veins
*69 -69.5	↑	=	Control: Thymus, cell regeneration, bones, liver; lung meridian; elbow joint inflammation; lumbar vertebrae; Herpes zoster, skin cell regeneration, bone thinning (osteoporosis); water veins, deformations; the elements hydrogen, cadmium
-70.5 7171.5	↑	=	Joint rheumatism, visual impairment, stiff neck; Flat feet; tonsillitis, pharynx; flat feet; Aqueous veins; the elements boron, arsenic; **Effect against:** Dermatophagoides 70.7; mite 71.8
-96.0		↑	Epiphysis control; inflammation of intestinal ulcers, Gingivitis; water veins, deformations
+97.5…98.5		↔	Management: dreams, pituitary gland, frontal lobe, Ear inflammation; the meridians gall bladder (97,5), stomach (98.0); Acupuncture point AD1 allergies; lattice network crossings, water veins, deformations

4. Expert Opinion

This part contains expert evaluation of the product based on the terms and conditions for granting the IIREC Seal. This expert opinion is based on measurement in DC and ELF magnetic fields, as depicted in part 2 and in Annex 1.

4.1 The relevance of measurement results

Effects established during measurement: first, disturbing effect of the measurement field due to various causes (geological, technical); second, changes achieved after locating the unit in the test field of a scope that exceeds measurement uncertainty and thus can be evaluated as significant.

DC values read from precision Teslameter 05/40 (including the ELF portion) show variation of the measured values 0.05 µT. The measured values can be determined with the accuracy of 0.1 µT. Due to the fact that decisive disturbing and equalizing effects are calculated as a difference (between a “disturbed” and a “non-disturbed” field), inaccuracy of 0.14 µT shall apply (= 0.1 µT times square root). Therefore, DC effects from 0.15 µT can be considered as guaranteed.

It is clear from the values in differential charts (Annex 1: Fig. 6–8, 16 and 17) that many measured points meet this criterion. The established effects clearly exceed the measurement uncertainty and therefore are significant from the viewpoint of measurement

As far as the above formulated evaluation topics are concerned, the results that are explained in detail in part 2 and in Annex 1 further demonstrated that:

Somavedic shows measurable equalizing effects on the magnetic field in a geopathic field. After 24-hour operation of Somavedic Medic, i.e. after repeated measuring at the same time of day and at a virtually unchanged moon phase, the initially disturbed magnetic field shows normalization:

The mean, or median, value of the read values shifts from 42.42 µT to about 42.25 µT, whereby the latter achieved due to the operation of Somavedic Medic corresponds to the natural value.

In approx. 30 minutes, the equalizing effect of the Somavedic Medic unit will be manifested on technical disturbances of the magnetic field around a switched-on cell phone (smart phone) and in the cabin of a motor vehicle.

The effectiveness of the product does not fade away after 72 hour exposure of the unit to a strong and extremely inhomogeneous magnetic field.

The effectiveness of the product does not fade away after long-term activation of the unit above a geopathic zone; contrariwise, it shows positive results.

4.2 Significance of the results from the biological point of view

From a biological view point, human beings as “receiving antennas” are particularly sensitive in areas with variations in the natural magnetic field.

Natural variations of the Earth’s magnetic field in the scope of max. 0.2 µT. A range of measurements proved that the product is suitable for equalization of such variations around one tenth of a microtesla. This characteristic is highly significant from a biological view point, as it returns the level of disturbance back to a biologically tolerable level.

To acquire more certainty about the relevance of this result, we evaluated biologically effective strength of irritation, or rather divergence in the test field – field gradient divergence,

(Fig. 9 through 12, 16 through 18 and 23 and 24). Graphic representation of the results of this data analysis shows improvements achieved by the effect of the Somavedic Medic unit.

This study examined the effect of the unit on geopathic, but also technical disturbances. Such disturbances of a magnetic field are particularly significant from the biological view point, especially in populated places. They also pose a significant burden in motor vehicles during longer or frequent drives.

Established effect of the Somavedic Medic unit:
Equalization of geopathic and technical (smart phone, motor vehicle) disturbances, resistance against significant magnetic field deformations and a positive long-term effect; general reliability of the unit.

4.3 Granting of the Seal

By means of objective physical measurement using magnetic induction meters we hereby proved the reliability and resistance of biologically beneficial effects (magnetic field equalization) of the Somavedic Medic unit.
The tests conducted in compliance with the IIREC standard methods confirmed that the unit was suitable for the use in buildings (apartments, populated spaces) and in motor vehicles.
Owing to this evidence, all the requirements are met and the product can be granted the IIREC Seal. Provided that the below conditions and obligations are met, the producer/customer is entitled to mark the Somavedic Medic product as “IIREC tested & certified” and stamp the product with the IIREC Seal:

Conditions:

(1) The seal validity must be renewed in time – before expiration.

(2) The IIREC shall be notified without undue delay of any change in the production conditions or in the effects of the product.

(3) The use of the seal shall be suspended if an additional IIREC test shows that the product quality no longer corresponds to the ascertained characteristics and/or any of the obligations is not met.

Obligations:

(1) Product buyers must be provably instructed regarding the correct use of the product.

Important:

(1) The seal can be applied directly to the product, product documentation and product packaging; as placed by the producer.

(2) Well ahead before the seal expires, the IIREC shall offer to the customer periodic testing of the unit and if the result is positive, it shall renew validity of the seal.

(3) Upon request, the IIREC can draft additional quality assurance proposals.

(4) Maintenance/preservation of the ascertained product quality shall be the responsibility of the producer.

Having appended his signature, the author of the expert opinion confirms that the performed measurements and their evaluation took place under his supervision and that the results are correct in terms of measurement accuracy and evaluation.

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Electromagnetic compatibility on a biophysical basis

Annex 1

24 figures

Annex 2

2 spectra