Scientific Evidence of Why the MRET Polymer Works To Eliminate EMR Damage: If you follow the science the conclusion is straightforward once you understand the problem.

There has been an ongoing experiment using mankind as the test subject ever since Nicola Tesla invented AC current, and that is the effect of electromagnetic radiation in all forms on human physiology. The reality is, that much like Tesla when he discovered that AC current had some negative effects, the process had begun and due to the financial interests there was no turning back. Enter microwave radiation, wireless transmission of information and the experimental parameters expand to the point where there is no longer a control group: no person is left unexposed to the bombardment of electromagnetic radiation. By 1990 there were approximately one million cell phones in use in the US and now there are three hundred million with five billion in use worldwide. So what can be done about it since they are not ripping down five million cell phone towers? No one is giving up their cell phone. Eastern European Scientists had known about these issues for a long time and of in the days of the cold war, microwave radiation (all wireless communication is microwave radiation) was being used as a weapon. The US Army funded a project that led to the discovery of the Noise Field. Litowitz discovered that when a random waveform was able to attach itself to a potentially damaging electromagnetic radiation wave, the new resultant wave caused no damage. Many others have corroborated the finding and thus there was really no reason to give up the benefits of our newfound communication advances, if someone had the capability to develop a portable noise field. A scientist by the name of Igor Smirnov did exactly that creating a Molecular Resonance Effect Technology that used ambient radiation to generate a noise field masking the damaging radiation and eliminating a physiological response. The science is all listed here from the ability of cells to detect even very weak fields to the proof that as noise field confers protection, the proof that the MRET polymer generates a noise field and the elimination of electromagnetic radiation damage. The equation is simple RADIATION + NOISE FIELD = NO PHYSIOLOGICAL EFFECTS.

Cells respond to very weak electric fields.

The response of living cells to very weak electric fields: the thermal noise limit.

Astumian, R. D., Weaver, J. C., (1990) " The response of living cells to very weak electric fields: the thermal noise limit", Science, Jan 26; 247 (4941): 459-62.

Abstract

A physical model in which cells are considered as possible detectors of very weak periodic electric fields yields a general relation between cell size and both thermally induced fluctuations in membrane potential and the maximum change in membrane potential caused by an applied field. The simplest version of the model provides a broad-band estimate of the smallest applied electric field to which membrane macromolecules can directly respond (about 10(-3) volt per centimeter). Much smaller fields (10(-6) volt per centimeter) can be detected if there is a response in only a narrow band of frequencies or if signal averaging occurs through field-

induced variation in the catalytic activity of membrane-associated enzymes. Both extensions of the simplest version remove the apparent violation of the thermal noise limit found in some experiments.

Noise fields inhibit radio frequency radiation induced damage

Electromagnetic noise inhibits radiofrequency radiation-induced DNA damage and reactive oxygen species increase in human lens epithelial cells.

Yao, K et al, (2008), "Electromagnetic noise inhibits radiofrequency radiation-induced DNA damage and reactive oxygen species increase in human lens epithelial cells", Molecular Vision, 14:964-969

Abstract

The goal of this study was to investigate whether superposing of electromagnetic noise could block or attenuate DNA damage and intracellular reactive oxygen species (ROS) increase of cultured human lens epithelial cells (HLECs) induced by acute exposure to 1.8 GHz radio-frequency field (RF) of the Global System for Mobile Communications (GSM).

After exposure to 1.8 GHz RF for 2 h, HLECs exhibited significant intracellular ROS increase in the 2, 3, and 4 W/kg groups. RF radiation at the SAR of 3 W/kg and 4 W/kg could induce significant DNA damage, examined by alkaline comet assay, which was used to detect mainly single strand breaks (SSBs), while no statistical difference in double strand breaks (DSBs), evaluated by gammaH2AX foci, was found between RF exposure (SAR: 3 and 4 W/kg) and sham exposure groups. When RF was superposed with 2 muT electromagnetic noise could block RF-induced ROS increase and DNA damage. DNA damage induced by 1.8 GHz radiofrequency field for 2 h, which was mainly SSBs, may be associated with the increased ROS production. Electromagnetic noise could block RF-induced ROS formation and DNA damage.

Temporally incoherent magnetic fields mitigate the response of biological systems to temporally coherent magnetic fields.

Litovitz T A, Krause D, Montrose C J, Mullins J M. Temporally incoherent magnetic fields mitigate the response of biological systems to temporally coherent magnetic fields. Bioelectromagnetics. 1994; 15(5):p.399-409.

Abstract

We have previously demonstrated that a weak, extremely-low-frequency magnetic field must be coherent for some minimum length of time (approximately 10 s) in order to affect the specific activity of ornithine decarboxylase (ODC) in L929 mouse cells. In this study we explore whether or not the superposition of an incoherent (noise) magnetic field can block the bioeffect of a coherent 60 Hz magnetic field, since the sum of the two fields is incoherent. An experimental test of this idea was conducted using as a biological marker the twofold enhancement of ODC activity found in L929 murine cells after exposure to a 60 Hz, 10 microT rms magnetic field. We superimposed an incoherent magnetic noise field, containing

frequencies from 30 to 90 Hz, whose rms amplitude was comparable to that of the 60 Hz field. Under these conditions the ODC activity observed after exposure was equal to control levels. It is concluded that the superposition of incoherent magnetic fields can block the enhancement of ODC activity by a coherent magnetic field if the strength of the incoherent field is equal to or greater than that of the coherent field. When the superimposed, incoherent noise field was reduced in strength, the enhancement of ODC activity by the coherent field increased. Full ODC enhancement was obtained when the rms value of the applied EM noise was less than one-tenth that of the coherent field. These results are discussed in relation to the question of cellular detection of weak EM fields in the presence of endogenous thermal noise fields.

Superimposing spatially coherent electromagnetic noise inhibits field-induced abnormalities in developing chick embryos.

Litovitz T A, Montrose C J, Doinov P, Brown K M, Barber M. Superimposing spatially coherent electromagnetic noise inhibits field-induced abnormalities in developing chick embryos. Bioeletromagnetics. 1994;15(2):p.105-13.

Abstract

Living cells exist in an electrically noisy environment. This has led to the so-called "signal-to-noise" problem whereby cells are observed to respond to extremely-low-frequency (ELF) exogenous fields that are several orders of magnitude weaker than local endogenous fields associated with thermal fluctuations. To resolve this dilemma, we propose that living cells are affected only by electromagnetic fields that are spatially coherent over their surface. The basic idea is that a significant number of receptors must be simultaneously and coherently activated (biological cooperativity) to produce effects on the biochemical functioning of the cell. However, like all physical detection systems, cells are subject to the laws of conventional physics and can be confused by noise. This suggests that a spatially coherent but temporally random noise field superimposed on a coherent ELF signal will defeat the mechanism of discrimination against noise, and any observed field-induced bioeffects would be suppressed. An experimental test of this idea was conducted using morphological abnormalities in developing chick embryos caused by electromagnetic field exposure as the endpoint. At an impressed noise amplitude comparable to the ELF field strength (but roughly one-thousandth of the thermal noise field), the increased abnormality rate observed with only the ELF field present was reduced to a level essentially the same as for the control embryos.

Bioeffects induced by exposure to microwaves are mitigated by superposition of ELF noise.

Litovitz T.A, Penafiel L.M, Farrel J.M, Krause D, Meister R, Mullins J.M."Bioeffects induced by exposure to microwaves are mitigated by superposition of ELF noise", Bioelectromagnetics 1997;18(6):422-30

Abstract

We have previously demonstrated that microwave fields, amplitude modulated (AM) by an extremely low-frequency (ELF) sine wave, can induce a nearly twofold enhancement in the activity of ornithine decarboxylase (ODC) in L929 cells at SAR levels of the order of 2.5 W/kg. Similar, although less pronounced, effects were also observed from exposure to a typical digital cellular phone test signal of the same power level, burst modulated at 50 Hz. We have also shown that ODC enhancement in L929 cells produced by exposure to ELF fields can be inhibited by superposition of ELF noise. In the present study, we explore the possibility that similar inhibition techniques can be used to suppress the microwave response. We concurrently exposed L929 cells to 60 Hz AM microwave fields or a 50 Hz burst-modulated DAMPS (Digital Advanced Mobile Phone System) digital cellular phone field at levels known to produce ODC enhancement, together with band-limited 30-100 Hz ELF noise with root mean square amplitude of up to 10 microT. All exposures were carried out for 8 h, which was previously found to yield the peak microwave response. In both cases, the ODC enhancement was found to decrease exponentially as a function of the noise root mean square amplitude. With 60 Hz AM microwaves, complete inhibition was obtained with noise levels at or above 2 microT. With the DAMPS digital cellular phone signal, complete inhibition occurred with noise levels at or above 5 microT. These results suggest a possible practical means to inhibit biological effects from exposure to both ELF and microwave fields.

Blocking 1800 MHz mobile phone radiation-induced reactive oxygen species production and DNA damage in lens epithelial cells by noise magnetic fields.

Wu W, Yao K, Wang K J, Lu D Q, He J L, Xu L H, Sun W J. Blocking 1800 MHz mobile phone radiation-induced reactive oxygen species production and DNA damage in lens epithelial cells by noise magnetic fields. Zhejiang Da Xue Xue Bao Yi Xue Ban. 2008; 37(1): p.34-38.

Abstract

To investigate whether the exposure to the electromagnetic noise can block reactive oxygen species (ROS) production and DNA damage of lens epithelial cells induced by 1800 MHz mobile phone radiation. The DCFH-DA method and comet assay were used respectively to detect the intracellular ROS and DNA damage of cultured human lens epithelial cells induced by 4 W/kg 1800 MHz mobile phone radiation or/and 2 muT electromagnetic noise for 24 h intermittently. 1800 MHz mobile phone radiation at 4 W/kg for 24 h increased intracellular ROS and DNA damage significantly ($P<0.05$). However, the ROS level and DNA damage of mobile phone radiation **plus noise group** were not significant enhanced ($P>0.05$) as compared to sham exposure group. Electromagnetic noise can block intracellular ROS production and DNA damage of human lens epithelial cells induced by 1800 MHz mobile phone radiation.

MRET Polymer Noise Field Proven

The Passive Generation of Low Frequency Noise Field by MRET-Shield Polymer Compound and Following Amplitude Modulation of RF Carrier Signals

Smirnov, I V. The Passive Generation of Low Frequency Noise Field by MRET-Shield Polymer Compound and Following Amplitude Modulation of RF Carrier Signals. Int J Biophysics. 2011;1(1):p.1-10.

Abstract

The experimental data demonstrates the ability of a polar polymer compound (MRET-Shield polymer) exposed to the external electromagnetic fields of RF range of frequency to generate low frequency composite noise fields. Due to the fractal geometry structure of MRET-Shield polymer compound and the phenomenon of piezoelectricity, this polymer generates subtle, low frequency, non-coherent electromagnetic oscillations (composite noise field) that can modify RF signals as a result of superposition phenomenon. The superposition of composite noise field generated by MRET-Shield polymer compound and RF microwave signals leads to amplitude modulation of RF signals where random low frequency signal generated by MRET-Shield compound is a modulating signal and original microwave signal is a modulated one. To verify the visibility of the proposed hypothesis MRET-Shield polymer compound was tested at MET laboratories, Inc., USA. This test also confirms that the introduction of MRET-Shield polymer to the source of RF signals in the range of 800 MHZ, 900 MHz, 1800 MHz, 1900 MHz, and 2400 MHz does not significantly affect the air measurements of RF signals, and subsequently does not lead to any significant distortion of transmitted RF signals.

MRET Polymer demonstrates noise field and elimination of electromagnetic induced physiological change.

Electromagnetic Radiation Optimum Neutralizer

Smirnov I V. Electromagnetic Radiation Optimum Neutralizer. Explore Magazine. 2002;11(1):p.45-50.

Abstract

Every operating electrical and electronic device emits electromagnetic radiation (EMR). The power of this emission varies depending on the size and electrical strength of the device and the electrical current it carries. High voltage power lines are significant emitters, and their field strength is sufficiently high to cause adverse effects on humans, animals and plants even hundreds of feet away. Smaller devices, such as computers, television sets, cellular phones and microwaves, emit lesser quantities of EMR, but the effect on humans can still be significant because people are in much closer proximity to such devices.

I was involved in the research of the effects of electromagnetic radiation on cellular structures in St. Petersburg University. Following this research program I developed Molecular Resonance Effect Technology. For this invention I was awarded a patent in the U.S. in February 2000. In compliance with this technology I created the EMR shielding material and device-EMRON (Electro Magnetic Radiation Optimum Neutralizer), now patent pending. Recently this polar

polymer material was tested by Underwriters Laboratories and received a UL recognition mark. This shielding material does not reduce the intensity (power) of electromagnetic fields. It "shields" the cellular structures of the body against the harmful effects of EMR. The radiation is still entering the body but the neutralizing effect of this polar polymer renders the radiation harmless.

Polymer Material Providing Compatibility Between Technologically Originated EMR and Biological Systems

Smirnov I V. Polymer Material Providing Compatibility between Technologically Originated EMR and Biological Systems. Explore Magazine. 2006; 15(4):p26-32.

Abstract

The question whether millimetre waves cause effects independent of absorption of heat, i.e.so-called nonthermal effects, has been the subject of lengthy scientific debate. Today, however, the existence of non-thermal effects of weak electromagnetic fields has been demonstrated in many experimental systems and may now be regarded as generally accepted [Kremer *et al*., 1988; Aldrich and Easterly, 1987; Magnavita, 1989;Tsong, 1989]. The EMR shielding material and device – MRET-Shield (Electromagnetic Radiation Optimum Neutralizer) was proven to produce the biological protective effect. It was awarded the U.S. patent number 6,369,399 B1 *"Electromagnetic Radiation Shielding Material and Device"* in April 2002. This polar polymer material was tested by Underwriters Laboratories and received a UL recognition mark in March 2001. EMR shielding material does not reduce the intensity (power) of electromagnetic fields. It "shields" the cellular structures of the body against the harmful effects of EMR. The radiation is still entering the body but the neutralizing effect of this polar polymer renders the radiation harmless. EMR shielding polar polymer can neutralize negative effects of EMR by changing the quality of the electromagnetic field rather than reducing its power. Any type of devices that claim to reduce the power of electromagnetic fields create distortion of transmitted signals and definitely make worse the reception of cellular phones, because these devices are based on ferromagnetic materials or high density metals. Besides they reduce the radiation only by 15-20%. They also can create even worse problems for the cellular structures of the body. The reason is that electromagnetic processes in the cells are thousand times weaker then electromagnetic fields generated by any electronic appliances. Taking into consideration that most of the appliances (cellular phones, computers, etc.) are usually located in a very close proximity to the human body, it is reasonable to admit that shielding devices, which reduce electromagnetic fields, first of all will suppress and disturb electromagnetic processes in living cells. Based on this approach it is possible to conclude that the subtle low frequency oscillations generated by EMR shielding polymer material may produce certain biological effect that provides alteration in enzymatic reactions and enhances signal transduction process on cellular levels.

The Effect of MRET Polymer Compound on SAR Values of RF Phones

Smirnov, I. V., (2008), "The Effect of MRET Polymer Compound on SAR Values of RF Phones", Journal of Microwave Power & Electromagnetic Energy, Vol. 42, No. 1.

Abstract

The ability of a defined polar polymer compound (MRET polymer) applied to RF phones to increase the dielectric permittivity of water based solutions and to reduce the SAR (Specific Absorption Rate) values inside the "phantom head" filled with the jelly simulating muscle and brain tissues was tested. Due to the high organizational state of the fractal structures of MRET polymer compounds and the phenomenon of piezoelectricity, this polymer generates specific subtle, low frequency, non-coherent electromagnetic oscillations (optimal random field) that can affect the hydrogen lattice of the molecular structure of water and subsequently modify the electrodynamic properties of water. The increase of dielectric permittivity of water finally leads to the reduction of the absorption rate of the electromagnetic field by living tissue. The reduction of SAR values is confirmed by the research conducted in June – July of 2006 at RF Exposure Laboratory in Escondido, California. This test also confirmed that the application of MRET polymer to RF phones does not significantly affect the air measurements of RF phone signals, and subsequently does not lead to any significant distortion of transmitted RF signals.

The Beneficial Effect of MRET-Shield on Blood Morphology in Vitro Following the Exposure to Electromagnetic Radiation of Cell Phone

Fisher H W, Pisarek S, Smirnov I V. The Beneficial Effect of MRET-Shield on Blood Morphology in Vitro Following the Exposure to Electromagnetic Radiation of Cell Phone. Explore Magazine. 2008;17(4):

Abstract

The effects of electromagnetic radiation on human blood are not well documented in the literature. Many investigators have postulated that this radiation is capable of invoking a response from a number of white blood cell types. Smirnov (2006) has investigated EMR effects from computer monitors on in vitro blood. A more growing concern is the effects of RF radiation from cell phones. The MRET polymer however has uniquely demonstrated the ability to shield the cellular structures of the body against the damaging effects of EMR. Even though the radiation is still entering the body, the neutralizing effect of this piezoelectric liquid crystal polymer has the ability to render the radiation harmless. The MRET polymer can neutralize negative effects of EMR by changing the quality of the electromagnetic field rather than reducing its power. Any type of device that claims to reduce the power of electromagnetic fields would have to distort the transmitted signals and definitely adversely affect the reception of cellular phones. When one considers that most appliances such as cellular and cordless phones, computers, and even vacuum cleaners are usually used right next to the human body, it is reasonable to conclude that these electromagnetic fields will cause biological changes and are capable of damaging tissue and causing disease. Three blood samples were drawn from each subject and complete blood counts (CBC) were analyzed. The first samples were used as controls. Sample two was exposed to fifteen minutes of radiation from an unshielded cell phone. Sample three was exposed to fifteen minutes of radiation from an MRET shielded cell phone. The analysis revealed that the MRET shield provided a protective effects as reflected by changes to granulocyte count, lymphocyte count, and white blood cell (WBC) count.

The Exposure of Normal Human Astrocytes Cells to Mobile Phone Radiation with and without MRET-Nylon Protection

Smirnov, I. V., (2009), "The Exposure of Normal Human Astrocytes Cells to Mobile Phone Radiation with and without MRET-Nylon Protection", European Journal of Scientific Research Vol 37, Issue 2.

Abstract

EMFs predominantly affect neurological tissue and the largest collection of this tissue is the brain. It is well documented that cell phones, which emit electromagnetic fields in the radio frequency range, can cause DNA damage, headaches, blurred vision, dizziness, fatigue, short term memory loss, neuralgias, tumors, sleep disturbances, aberrant brain wave activity and changes to cerebral blood flow, including altering the permeability of the blood brain barrier. These findings, both the association and dose relationships between cell phone usage and disease, place cell phone users into a high risk health group. EMF effects are on a cumulative basis, and recent studies have concluded that cell phone users for greater than ten years have a significantly increased risk of glioma, a form of brain tumor. The most common form of primary brain tumor is a glioma and astrocytomas are the most frequently occurring glioma. A study was conducted to examine the effects of cell phone radiation on Normal Human Astrocytes and the effects of mobile phone radiation on Normal Human Astrocytes when the MRET Nylon polymer was used as an intervention to radio frequency radiation of the mobile phone. The results demonstrated that the mobile phone radiation decreased the number of Normal Human Astrocytes and when the cell phone was used with the intervention of the MRET-Nylon polymer, the number of Normal Human Astrocytes increased. This experiment also showed that the short term (one hour) exposure of Normal Human Astrocytes to mobile phone radiation did not have any genetic effect on cells. The MRET-Nylon polymer belongs to the new generation of electromagnetic radiation shielding materials based on Molecular Resonance Effect Technology. The MRET-Nylon polymer compound has a special fractal geometric structure. Due to the fractal nano-rings structure and enhanced piezoelectric properties of this compound, it generates random, subtle, low frequency oscillations (noise field) when exposed to the external electromagnetic radiation. This polymer can significantly decrease the biological effects of electromagnetic radiation, both thermal and non-thermal, by imposing the random low frequency oscillations (noise field) on RF waves. The theoretical concept of the electromagnetic noise field is related to the ability of the noise field to offset the thermal effects is demonstrated here.

Thermographic Evaluation of the MRET Polymer on the Reduction of Thermal Effects Caused by Radio Frequency Radiation

Fisher H W. Pisarek S, Smirnov I V. Thermographic Evaluation of the MRET-Shield Polymer on the Reduction of Thermal Effects Caused by Radio Frequency Radiation. Explore Magazine. 2009;18:1: p.14-17.

Abstract

"Thermography, also known as thermal imaging or infrared imaging, is an advanced non-invasive technique based on mapping the temperature profiles on the surface of an object." When cellular telephone technology was initially introduced, it was thought that these devices were incapable of generating heat and that no thermal effects on tissue was taking place as a result of the radio frequency (RF) radiation. It is now common knowledge that there are both thermal and non-thermal effects of cell phone microwave radiation. Dr. Igor V. Smirnov has invented a piezoelectric liquid crystal known as the MRET polymer and used in the construction of a cell phone chip. This polymer can significantly decrease the physiological effects of electromagnetic radiation, both thermal and non-thermal, by altering the waveform of the radiation. Through the use of thermographic imaging, the thermal effects of RF radiation generated by a cellular phone were profiled. The subsequent reduction of the radio frequency radiation thermal heating effects (64.28% and 112.5%) demonstrated by the MRET polymer has proven the occurrence of a physiological change. The benefits of a concomitant reduction of the non-thermal radiation effects by the MRET polymer must be considered to have occurred simultaneously.

The Effect of Radio Frequency Radiation (RFR) from Cell Phone Usage on In Vitro Human Astrocyte Cells (Glial Cells) and the Subsequent Intervention of the MRET Polymer on RFR Effects

Fisher H W, Gauvin C, Pisarek S. The Effect of Radio Frequency Radiation (RFR) from Cell Phone Usage on In Vitro Human Astrocyte Cells (Glial Cells) and the Subsequent Intervention of the MRET Polymer on RFR Effects. Explore Magazine. 2009;18-4.

Abstract

In light of the current research, the environment poses potential risks which one faces daily from ambient electromagnetic fields (EMFs) in the environment, otherwise known as, electromagnetic radiation. EMFs are unavoidable and certainly there are established relationships between, cancer, leukemia, hormonal dysfunction, miscarriage and numerous other negative effects on the central nervous system, the immune system and many or all of the sixty to one hundred trillion cells in the body. EMFs predominantly affect neurological tissue and the largest collection of this tissue is the brain. It is well documented that cell phones, which emit electromagnetic fields in the radio frequency range, can cause DNA damage, headaches, blurred vision, dizziness, fatigue, short term memory loss, neuralgias, tumours, sleep disturbances, aberrant brain wave activity and changes to cerebral blood flow, including altering the permeability of the blood brain barrier. These findings, both the association and dose-relationships between cell phone usage and disease, place cell phone users into a high risk health group. EMF effects are on a cumulative basis, and recent studies have concluded that cell phone users for greater than ten years have a significantly increased risk of glioma, a form of brain tumour. A geometric fractal piezoelectric liquid crystal polymer, Molecular Resonance Effect Technology, capable of generating a magnetic noise field, is used in the construction of a cell phone chip that has been shown to significantly decrease the physiological effects of electromagnetic radiation by interrupting the physiological perception of the waveform. The most common form of primary

brain tumour is a glioma and astrocytomas are the most frequently occurring glioma. A study was conducted to examine the effects of cell phone radiation on Normal Human Astrocytes and the effects of cell phone radiation on Normal Human Astrocytes when the MRET polymer was used as an intervention to radio frequency radiation of the cell phone. The results demonstrated that the cell phone radiation decreased the number of Normal Human Astrocytes and when the cell phone was used with the intervention of the MRET polymer, the number of Normal Human Astrocytes increased.

Darkfield Microscopic Evaluation of the Noise Field Polymer on the Reduction of Live Blood Effects Caused by Radio Frequency Radiation

Fisher, H W., et al, "Darkfield Microscopic Evaluation of the Noise Field Polymer on the Reduction of Live Blood Effects Caused by Radio Frequency Radiation", Explore magazine, 2010;Vol.19, No.3.

Abstract

In optimal blood cell formations, the spatial orientation of the erythrocytes is singular, free moving and often colliding with one another. Blood is responsible for the distribution and transport of oxygen from the lungs to the cells of the body and to remove carbon dioxide from the cells and transport it back to the lungs. Blood is also responsible for the transportation of nutrients, hormones and wastes, temperature control, pH, electrolyte balance and the immune system function of the white blood cell components. The ability of blood to carry out these functions is dependent upon a plethora of factors, however abnormal spatial orientations, rouleau and erythrocyte aggregation (EA), are two related anomalies that may significantly inhibit these functions. Erythrocyte aggregation is the tendency of erythrocytes to form aggregates whose shapes change according to normal variations or pathological conditions. Consequently these anomalies cause changes to flow dynamics and predispose the inability to carry out transportation activities and decrease functional capillary density (FCD) or decrease erythrocyte surface area, also decreasing functional efficiency. Functional capillary density is the determination of the number of capillaries in an area that has erythrocyte flow and relates to the subsequent ability of the blood to deliver nutrients, fluid and solute exchange, and waste product excretion. Red blood cell aggregation has a significant impact on functional capillary density. Darkfield microscopy can be used to document the changes to live blood such as erythrocyte aggregation and rouleau caused by the combination of factors germane to cell phone usage. A geometric fractal piezoelectric liquid crystal polymer capable of generating a magnetic noise field is used in the construction of a cell phone chip that has been shown to significantly decrease the physiological effects of electromagnetic radiation by altering the waveform of the radiation. By examining all live blood samples and comparing the control, non-noise field samples and noise field mediated samples to the standard accepted value for optimum appearance of blood samples via darkfield microscopy, it has been demonstrated that the radiation effects from the combination of the cell phone, carrier wave and concomitantly transported information packets cause adverse effects to blood. Subsequent live blood cell evaluation after irradiation with the intervention of the passive noise field polymer has been shown to eliminate these radiation effects.