GABRIEL-TECH

Our Living Environment

Electromagnetic fields and your wellbeing

Electromagnetic fields:
an invisible companion in everyday life

Developed in Germany, Gabriel Technology is a scientifically measurable electromagnetic fields (EMF) interference-reduction technology for modern living and working environments. Using specialised measurement, analysis and application methods, it is designed to reduce electromagnetic interference (EMI) and support a more balanced electromagnetic environment, helping people use modern technology with greater confidence and comfort. Applications include homes, workplaces, therapy facilities, mobile devices and vehicles.

Understanding EMF

Electromagnetic fields, or EMF, is an umbrella term for a broad range of radiation, waves and fields. Life has always developed within a natural electromagnetic environment, and these natural fields are part of the physical conditions that support biological processes.

At the same time, the human body functions through complex electrical, magnetic and biochemical activity. These processes interact continuously with the surrounding environment, including both natural EMF and the technically generated EMF that is now part of modern life.

Sources of technical EMF are everywhere: electrical wiring, household appliances, wireless networks, mobile communications, smart devices and many other technologies used in homes, workplaces, vehicles and public spaces. As a result, complete avoidance is rarely realistic.

The potential effects of EMF on health and wellbeing are the subject of growing discussion and research. Some people report increased sensitivity to electromagnetic exposure, commonly referred to as electromagnetic hypersensitivity, or EHS. EMF may therefore be considered a possible environmental factor when evaluating comfort, wellbeing and the quality of living or working spaces.

EMF and regeneration: the particular importance of sleep and your bedroom

Electrical fields, magnetic fields and electromagnetic waves accompany us throughout the day. From the moment we start using electric devices in the morning, we are surrounded by a wide range of technical fields: at home, outdoors, in transport, at work and in public spaces. For many people, exposure continues throughout the day, leaving few opportunities for a true break or recovery phase. This makes the bedroom especially important.

During sleep, the body enters a vital regeneration phase. Daily stress is processed, cells repair and renew, the brain consolidates information, and many essential recovery processes take place. Ideally, the bedroom should therefore be an environment that supports rest, balance and regeneration.

In the bedroom, natural fields should be preserved as far as possible, while technically generated fields should be avoided, reduced or addressed where possible. The bedroom should be a place of restoration, a space within the home that supports recovery and wellbeing.

Which radiation, waves and fields affect us?

The following types of radiation, waves and fields are typically present:

Low-frequency alternating electric fields

Low-frequency alternating electric fields arise from every cable or device connected to the mains electricity supply. Cables, sockets and most plugged-in devices emit alternating electric fields that can spread through a room and be present in many areas of daily living.

Low-frequency alternating magnetic fields

Low-frequency alternating magnetic fields are generated by flowing current. Common sources include devices that are switched-on, transformers, pumps, photovoltaic inverters and other electrical installations.

These fields can also enter buildings from outside. Standard walls and building materials usually do not provide effective protection. External sources such as transformer stations, high-voltage power lines, underground cables and electrified railway lines are also sources of low-frequency alternating magnetic fields.

Static magnetic fields

Static magnetic fields can distort the natural geomagnetic field. Ideally, this natural field should be uniform and balanced.

Static magnetic fields may be caused by magnets and magnetised steel masses, including steel reinforcement in concrete ceilings, radiators, bathtubs, electric motors, trams and, in some cases, photovoltaic systems. In bedrooms, spring mattresses, steel bed-frame components and electrically adjustable beds can be sources of magnetic fields. Workplaces and offices can also have many sources of magnetic-field distortion.

Static electric fields

Static electric fields occur on non-conductive surfaces. These may include furniture, carpets, laminate flooring, curtains, plastics, upholstery fabrics, soft toys and clothing.

Electromagnetic waves and high-frequency radiation

High-frequency radiation now reaches almost every part of the modern living environment. The density and complexity of radio-frequency signals continue to increase.

In addition to mobile-phone base stations, radar and directional radio systems, many wireless technologies have entered the home. These include cordless DECT telephones, baby monitors, Wi-Fi routers and repeaters, game consoles, smart meters and connected household devices.

Electronic water meters, electricity meters and heat-consumption meters are also becoming more common. Many transmit signals at regular intervals. As smart-home technologies continue to expand, this development is still at an early stage.

Gabriel Technology: scientifically measurable EMF interference reduction

For many years, Gabriel-Tech has conducted research to investigate the effects of EMF on the human organism and to document the effectiveness of Gabriel interference reduction technology.

Brainwave measurements, or EEG, and heart-rate variability (HRV) measurements have been conducted in collaboration with the University of Mainz in Germany. A double-blind study was published in the specialist journal Frontiers in Neuroscience[2].

Gabriel-Tech also operates its own dedicated laboratory, where scientists investigate the biological effects associated with EMF exposure as well as the protective effect of Gabriel Technology. EEG measurements are carried out using a specialised ultra-high-density EEG system, typically used in advanced neuroscience research. With recordings from up to 256 electrodes, this high-resolution system and its dedicated analysis software provide detailed insights into brain activity patterns. Battery-powered operation makes the system portable and suitable for mobile measurement settings. At present, only a few of such advanced EEG systems are in use worldwide.

Numerous studies of Gabriel Technology have been published and presented at international conferences. Research is conducted both in laboratory conditions and in everyday settings. Mobile phones, baby monitors, hearing aids, motor vehicles and sleeping areas, among other things, have been examined.

2) Henz D, Schöllhorn WI and Poeggeler B (2018) Mobile Phone Chips Reduce Increases in EEG Brain Activity Induced by Mobile Phone-Emitted Electromagnetic Fields. Frontier in Neuroscience 12:190. doi: 10.3389/fnins.2018.00190

The results indicate measurable human responses to EMF exposure. At the same time, Gabriel Technology has shown a measurable EMF interference reduction effect using scientifically recognised methods.

The role of interference reduction

Not all EMF sources can be switched off, removed or avoided. For this reason, reduction of EMF interference can play an important role in creating a more balanced living or working environment.

Gabriel Technology is an information-based technology designed to help reduce hotspots, areas of high energy density caused by electromagnetic interference.

Gabriel-Tech offers scientifically substantiated products tailored to specific areas of daily life. Each product is developed for a defined application and can be used individually or in combination with other Gabriel products in homes, workplaces and vehicles.

Important areas for EMF interference reduction include:

- Electrical circuits within buildings
- Computers, printers and peripheral devices
- Office and entertainment equipment
- Kitchen appliances
- DECT telephones
- Wi-Fi routers
- Smartphones and mobile devices
- Bedrooms and sleeping areas
- Motor vehicles
- Waterpipes and drinking water

Electromagnetic interference potential (EMI potential)

Gabriel-Tech uses the concept of electromagnetic interference potential, or EMI potential, to assess the combined effects of different fields and radiation sources.

Measurements compare situations such as:

- Phone call without Gabriel chip and with EMF interference reduction with Gabriel chip (see Figure 1)
- Sleeping area before and after EMF interference reduction with Gabriel chip (see Figure 2)

These measurements help visualise and document the changes achieved through applying Gabriel Technology, in the form of Gabriel chip.

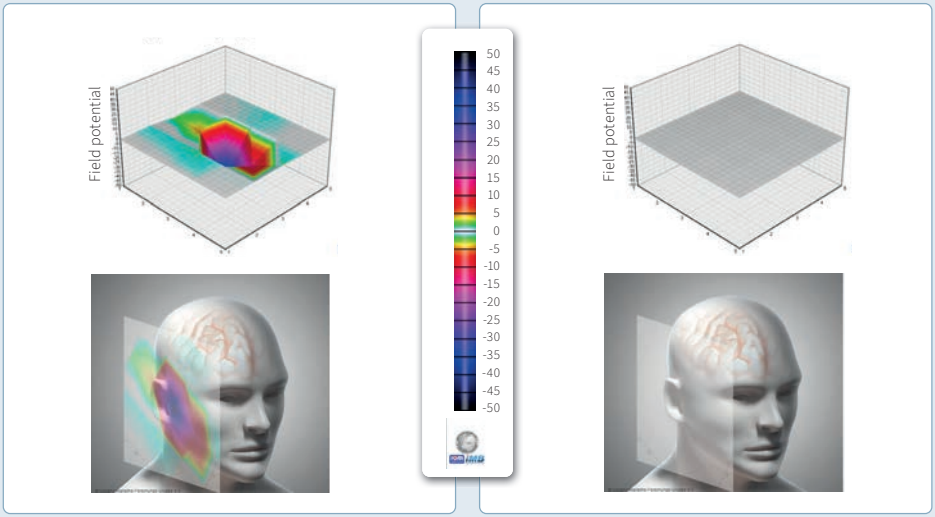
Gabriel Technology's EMF interference reduction is not the same as EMF shielding. Devices and technologies can continue to be used without restriction. When using Gabriel Technology, EMI potential is measurably reduced, helping to create a more balanced overall environment.

The effect of Gabriel Technology can be verified through laboratory measurement of EMI potential.

1 EMI potential

Phone call without Gabriel chip
Maximum performance potential: 42.81 µW/m2

Phone call with Gabriel chip
Maximum performance potential: 0.20 µW/m2 (nT)



2 Bed – Magnetic static field (nT)

Magnetic static fields/Magnetostatics: deviations from the geomagnetic field/ Building Biology Reference Values (nT)	acceptable	slightly elevated	strongly elevated	extremely elevated
	< 20	20 - 100	100 - 500	> 500

Studies of EMF exposure and Gabriel-Tech's dedicated measurement laboratory

Studies carried out by Gabriel-Tech at its dedicated research and measurement laboratory have shown strong stress responses in the brain following EMF exposure, with activation across different frequency ranges and in deep brain regions. Blood and urine analyses have also indicated changes in inflammatory markers. HRV measurements suggest that EMF exposure may reduce physiological dynamism, while physical and cognitive performance may also be affected.

These effects have been observed under everyday exposure levels, even at values well below current statutory limit, for instance, in the EU.

Recent studies have also reported altered blood values in people under the age of 30 living near mobile-phone base stations. According to Laldinpuii et al.[3], leukocyte counts increased by up to 24% within a radius of 60 metres around a transmitter mast. Among individuals using mobile phones for four to six hours daily, more than 50% showed leukocyte counts above the normal reference range, with monocytes particularly affected.

On 14 April 2026, the journal Cell published a peer-reviewed study identifying molecular sensors for electromagnetic-field radiation[4]. The study describes mitochondria not only as cellular energy suppliers, but also as receivers of external electromagnetic interference signals. Calcium oscillations appear to play an important role in this process. These calcium oscillations influence processes ranging from counter-regulation and inflammation to neurological functions.

The study also discusses the role of S4 voltage sensors of voltage-gated ion channels, or VGICs, which respond sensitively to artificial electromagnetic fields. This provides a proposed cellular-biological mechanism by which pulsed fields, such as 5G, can trigger non-thermal biological effects.

Why it matters

Current statutory limit values are based primarily on established exposure thresholds. However, GabrielTech believes that these limits do not sufficiently address the complexity of today's EMF environment.

New technologies, the expansion of 5G networks, smart homes, smartwatches, smart meters and connected devices are making daily electromagnetic exposure increasingly complex. While individuals can design their homes to reduce many indoor environmental pollutants, EMF from digital technologies, mobile communications, neighbouring properties and workplace systems is often more difficult to control.

For many people, exposure is no longer solely a matter of personal choice. It accompanies daily life around the clock.

In a nutshell, we have the solution!

3) Laldinpuii, et al. (2026). Effects of exposure to nearby mobile phone base stations and mobile phone usage on human blood parameters. Electromagnetic Biology and Medicine, 1–20. Advance online publication.

4) Kim, J., et al. (2026). Electromagnetic field-inducible in vivo gene switch for remote spatiotemporal control of gene expression. Cell, 189(11), 3465–3480.e23.

Studies by Gabriel-Tech

Gabriel-Tech has conducted a range of studies, including:

- EEG studies involving mobile-phone exposure
- 4G/LTE and 5G comparison studies
- 5G smartphone-call studies
- Immune-system marker studies
- Mitochondrial bioenergetics studies
- Sleeping-area EEG studies
- Motor-vehicle studies
- Workplace and therapy-environment measurements
- Long-term measurements of Gabriel interference reduction effects

Together, these studies form the scientific background for Gabriel Technology and its application in EMF interference reduction.

Here is a selection of studies:

Dr. Diana Henz during EEG measurements in the laboratory

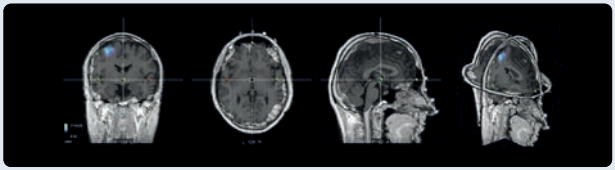
Study 1: EMI potential and EEG activities while making a phone call with a smartphone

Gabriel-Tech research laboratory studies have compared different exposure situations, including:

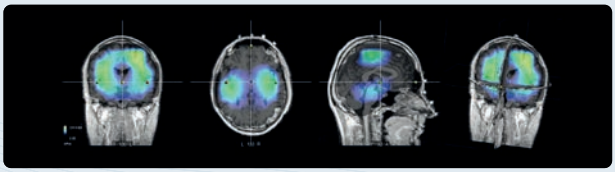
- Pre-test condition without a smartphone
- Phone call with a smartphone without Gabriel chip
- Phone call with a smartphone and Gabriel chip

The results show measurable differences in EMI potential and EEG activity between exposure without EMF interference reduction and exposure after applying a Gabriel chip. (see Figure 3 for the EEG measurements)

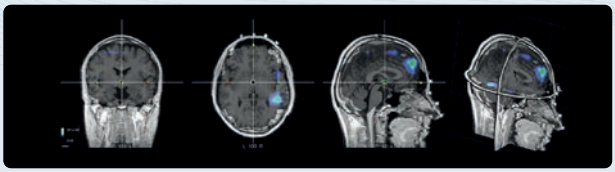
3 Phone call with a smartphone



Pre-test without a smartphone



Phone call with a smartphone without Gabriel chip



Phone call with a smartphone and Gabriel chip

The color scale represents the level of activation, ranging from red for very strong activation to blue for very low activation. Areas without color indicate no activation.

Study 2: EEG study on 4G, 5G and the impact on immune system

Gabriel-Tech conducted EEG studies comparing exposure in 4G/LTE and 5G environments. (see Figure 4) Additional measurements have examined brain activity during a 5G smartphone call, both with and without Gabriel Technology. (see Figure 5)

The results suggest that 5G exposure can affect regions of the brain involved in immune regulation through cytokine production. Cytokine receptors, which are controlled via electrical neural impulses, may be influenced by external radiation exposure affecting these brain regions.

This suggests that pathogens such as viruses or bacteria may not be the only triggers of immune-system dysfunction. Specific frequencies may also contribute to certain neuroimmunological responses.

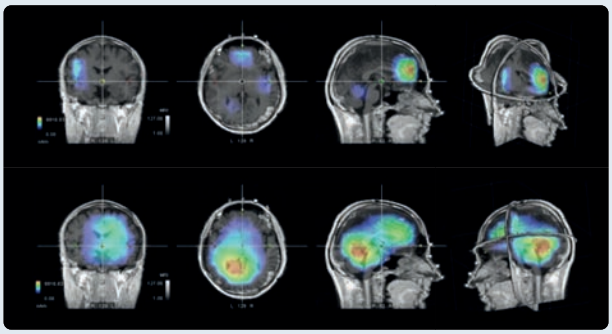
Possible impacts of EMF to our body

Potential impacts of EMF discussed in this research include:

- Serious impairment of immune-system regulation
- Inflammation of neurons and brain tissue, known as neuroinflammation
- Potential contribution to neurodegenerative processes
- Possible relevance to conditions such as dementia, Alzheimer's disease, Parkinson's disease, multiple sclerosis and ALS
- Potential links to autoimmune processes, where the immune system attacks the body's own tissue or is less able to eliminate altered cells effectively

It should be noted that these topics require careful scientific interpretation.

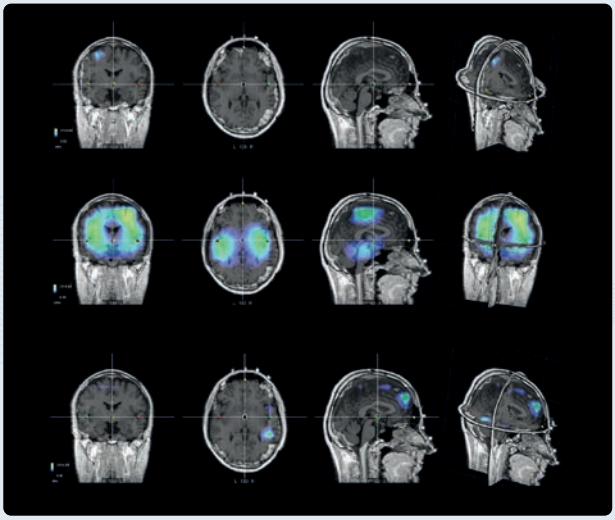
4 Difference of EEG between 4G (LTE) and 5G zones



4G-Zone

5G-Zone

5 EEG measurements during a 5G smartphone call: with and without Gabriel 5G chip



Control condition

iPhone 17 Pro Max

iPhone 17 Pro Max
with Gabriel 5G chip

The color scale represents the level of activation, ranging from red for very strong activation to blue for very low activation. Areas without color indicate no activation.

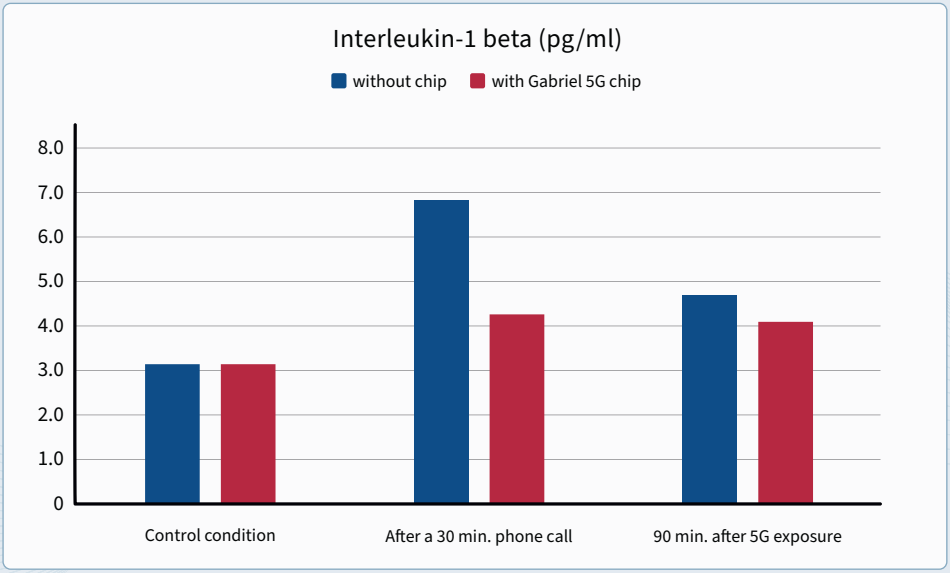
Study 3: blood and mitochondrial measurements

Researches conducted by Gabriel-Tech examined biological markers such as Interleukin-1 beta, a marker associated with immune response.

In one study, an immune response was observed after a 30-minute 5G call with an iPhone 12. When the Gabriel-Tech 5G chip was used, the immune reaction after the 5G call was significantly lower. (see Figure 6)

6 Effect on Interleukin-1 beta of a phone call with a smartphone

Blood test

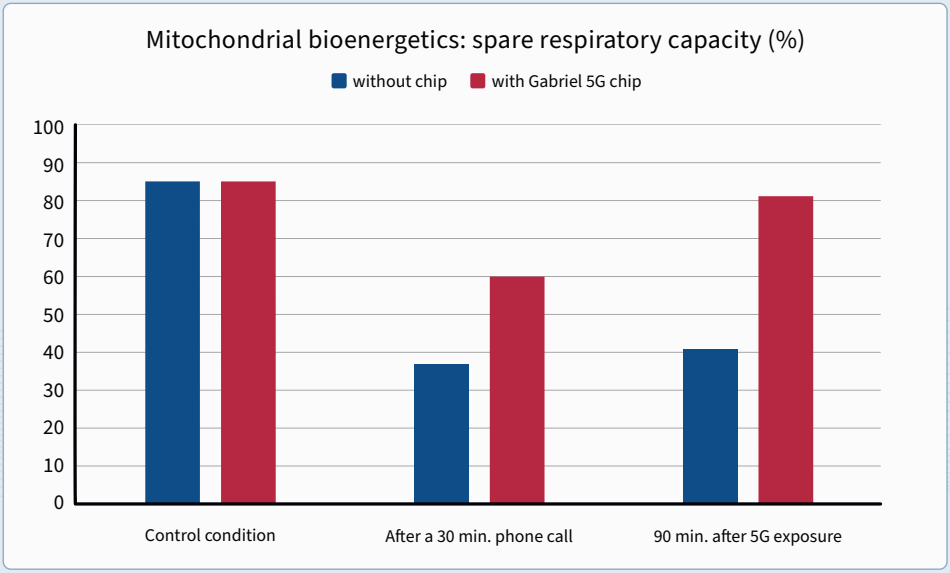


Interleukin-1 beta as a marker of an immune response to 5G phone calls.
After just 30 minutes of a 5G phone call using an iPhone 12, an immune response can be observed. When the Gabriel-Tech 5G Chip is applied, the immune response following the 5G phone call is significantly reduced.

Mitochondrial bioenergetics were also examined. The percentage reserve respiratory capacity was significantly reduced after a 30-minute 5G call and remained reduced after a 90-minute break. When the Gabriel-Tech 5G chip was used, this reduction was significantly lower, and reserve respiratory capacity returned to a comparable level after the 90-minute recovery period. (see Figure 7)

7 Effect on mitochondrial bioenergetics: spare respiratory capacity (%)

Mitochondrial bioenergetics



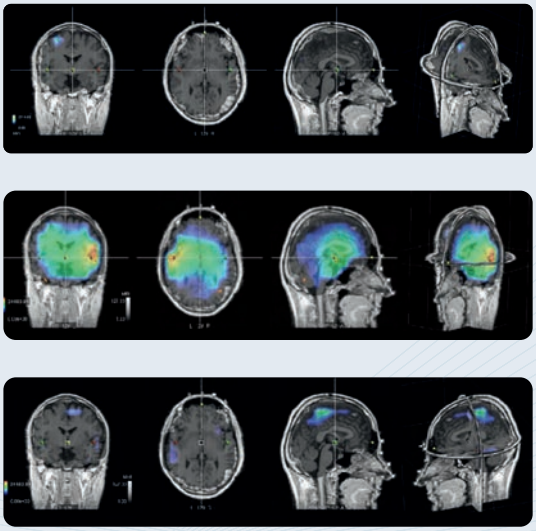
The percentage of spare respiratory capacity is significantly reduced after a 30-minute 5G phone call, and remains significantly reduced even after a 90-minute break following the call. When the Gabriel-Tech 5G Chip is applied, this reduction is significantly smaller. After a 90-minute break following the 5G phone call, the spare respiratory capacity returns to a comparable level to the control condition.

Study 4: EEG studies in bedrooms

Gabriel-Tech has also conducted EEG measurements in sleeping areas where EMF is present, before and after applying Gabriel bed chips.

The results show measurable differences in EEG activity before and after applying Gabriel bed chips. These findings support the importance of the bedroom as a key environment for EMF assessment and improvement. (see Figure 8)

8 EEG study in a bedroom



Control condition

EEG in a bedroom with EMF

EEG in a bedroom with EMF with Gabriel bed chips

The color scale represents the level of activation, ranging from red for very strong activation to blue for very low activation. Areas without color indicate no activation.

Overview of scientific studies on Gabriel Technology

Gabriel Technology has been evaluated in a series of scientific studies examining everyday exposure scenarios such as mobile communication, Bluetooth devices, vehicles, therapy equipment, sports applications and 5G exposure. Selected studies have been published in peer-reviewed academic journals and conference proceedings, providing documented scientific support for Gabriel-Tech's measurement-led approach.

2017 Randomised, controlled, double-blind study evaluating Gabriel Chip*
2018 Effects of Gabriel Technology in an Audi A6 Quattro*
2019 Effects with iPhone X, Bluetooth AirPods and wired headset*
2019 Effects with the Colorbox12 therapy device*
2020 Application in the field of sports*
2020 Effects under 4G and 5G exposure
2020 Effects of 5G exposure using a Samsung Galaxy S10 5G on brain activity
2021 Effects of 5G exposure using an iPhone 12 on brain activity
2021 Effects of the Gabriel-Tech air purifier under 5G exposure on brain activity
2022 Effects under 5G exposure during a four-hour driving simulation*
2022 Effects of 5G exposure on brain activity, the immune system and mitochondrial bioenergetics*
2023 Effects in the AmpliField mini under 5G exposure on brain activity
2024 Effects of the Gabriel-Tech Frequency Card under 5G exposure on brain activity
2024 Effects of Gabriel Technology in an electric vehicle*
2025 Effects of mobile communication using the Gabriel Chip 5G
2025 Effects of mobile communication using the Gabriel 24-carat gold-plated Frequency Card
2026 Effects of mobile communication using the Gabriel Chip 5G and the Gabriel 24-carat gold-plated Frequency Card
2026 Effects of exposure in an electric vehicle with Gabriel Technology

* Published in peer reviewed international journals and conference proceedings

All studies can be found online here:
www.gabriel-technologie.com/forschung

Products and services

Gabriel-Tech products for **mobile communications** are suitable for use with mobile phones and smart-phones, as well as cordless phones, baby monitors, laptops, hearing aids, headphones, Bluetooth devices and Wi-Fi equipment.

Reduce EMF interference at your home and office with Gabriel-Tech **building** products. Tailored chips for bed, fuse box, cables, windows and more.

The **frequency product range**, wearable and portable accessories, combines elegant design with effective performance, adding a stylish dimension to Gabriel-Tech's interference-reduction solutions.

Electromagnetic frequencies can also influence **water** pipes and drinking water. Gabriel-Tech offers solutions designed to support a measurable improvement in the physical properties of tap water.

As **vehicles** become increasingly electrified, electromagnetic exposure inside motor vehicles has increased. Specially developed Gabriel-Tech products are designed to reduce electromagnetic interference and support more balanced brain activity of drivers and passengers, contributing to comfort, wellbeing and road safety.

Learn more about Gabriel-Tech products online:
https://media.gabriel-technologie.com/produktvideos

Gabriel-Tech, through its network of experts, provides a structured assessment of the electromagnetic environment in a home, workplace or other occupied space. This service is currently only available in the EU. The individual situation is measured, analysed, assessed and professionally improved through a combination of avoidance, disconnection and reduction of EMF interference.

The assessment is based on specialised measurements and solutions supported by TÜV-certified[1] quality management. The aim is to create a lower-EMF living and working environment while allowing people to continue benefiting from modern technology.

The sleeping area is the central focus of the assessment because of its importance for regeneration and health. The first step is a technical measurement analysis using high-quality, standards-compliant measurement technology and dedicated software for evaluating and documenting the results.

The consultant makes EMF visible and provides precise measurement values. The relevant fields described above are measured in a close grid on the bed, and assessed according to building biology reference values and Gabriel-Tech reference standards.

The evaluation of the measurement results allows appropriate improvement measures to be planned and implemented. In many cases, a more conscious use of technology can already help. For example, devices and

wireless signals can be switched off when not needed, and mobile phones should not be charged on the bedside table.

In some bedrooms, it may also be possible to turn off electrical circuits that generate fields by using automatic switching systems. This can help create voltage-free conditions during the night.

1) TÜV is an independent quality assurance standard organisation in Germany.

Gabriel-Tech EMF assessment consists of four phases:

Phase 1:
On-site measurements

After initial consultation, EMF measurements are taken.

Our reference values are based on:
- IBN building biology standards
- Gabriel-Tech internal standards

Phase 2:
On-site analysis and recommendations

A Gabriel-Tech consultant assesses the conditions and develops tailored improvement recommendations in close consultation with the client.

Phase 3:
On-site implementation

The recommendations are implemented in close consultation with the client.

Phase 4:
Report of the consultation

Clients receive a detailed report, including coloured graphic representation of EMF.

Summary

Modern life is surrounded by EMF from electrical systems, wireless networks, mobile communications, smart devices and connected technologies. GabrielTech has developed a measurement-based approach to assess and reduce electromagnetic interference in everyday environments.

Using professional measurement technology, EEG research, HRV analysis and laboratory testing, GabrielTech documents how EMF interference can affect biological systems and how Gabriel Technology can help create a more balanced environment.

Gabriel Technology does not shield or block devices. Instead, it is designed to reduce electromagnetic interference while allowing modern technology to remain fully usable. The company's quality management system is TÜV-certified according to ISO 9001:2015, and its technology has been proven through multiple studies and practical applications.

Gabriel-Tech Quality Standards

Verifiable Quality Standards
Gabriel-Tech's quality management system is TÜV-certified according to ISO 9001:2015.

The certified scope includes:

- Development, manufacture and trade of technologies and products for the measurable reduction of electro magnetic interference
- Services in measurement, analysis, visualisation and consultation
- Assessment of the earth's magnetic field, electric and magnetic fields, electromagnetic waves and their combined interactions
- Measurement of EMI potential
- Use of a standardised laboratory measurement procedure for verifying the technologies applied

This certification supports Gabriel-Tech's commitment to quality, measurement transparency and reproducible processes.

GABRIEL-TECH

EMF?
We have the solution!

Link to Gabriel shop

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ISO 9001
Zertifiziertes Qualitätsmanagementsystem
www.tuev-sued.de/ms-zert

Gabriel-Technologie
MADE IN GERMANY

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The images on front cover, pages 1 and 3 were generated using AI.

For legal reasons, Gabriel-Tech states that Gabriel Technology is neither a medicinal product nor a medical device.

Gabriel-Tech products should therefore be presented as technologies for electromagnetic interference reduction and environmental optimisation, while highlighting their unique role in supporting wellbeing-oriented living.