

Electro-Hypersensitivity Does Not Exist

Document 3 — Measuring Waves: What Is Measured, What Is Not Measured, and What Should Be Made Public

Comment submitted in response to the U.S. Department of Health and Human Services (HHS) *Request for Information on Electromagnetic Fields (EMFs), Radiofrequency (RF) Radiation, and Wireless Radiation Exposure*, FR Doc. 2026-19252, Docket HHS-OASH-2026-0397.

Questions addressed: 7; 8; 9.

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The subjects addressed in this document are part of an open publication, intended to receive further testimonies and contributions.

Abstract

This document describes the methods used in Europe, mainly in France and Belgium, to measure exposure to radiofrequency (RF) radiation, their blind spots, and the information made public. French regulatory measurement is carried out by accredited laboratories, on request, with the recommendation that equipment with non-permanent emissions, including phones, be switched off; it is extrapolated to maximum emission conditions only above 6 V/m or on request. The national modeling published in 2025 covers outdoor exposure only. Both tools exclude the source that often dominates the dose received by the head: the user's own phone, whose transmit power increases where the network is weak. Nor do they capture the concentration of energy produced by beamforming antennas, under which a recent simulation shows that compliance with the reference level no longer guarantees compliance with the basic restriction. To our knowledge, the measuring devices most commonly used do not go down to the precautionary values recommended in Europe, and low frequencies, including the power line communication signal of smart meters, remain outside the protocols. Finally, no body independent of the operators continuously measures what each antenna actually emits. France already publishes a substantial share of the information—information files sent to mayors, the map of antennas, measurement results, the specific absorption rate of phones—but this information confers no power to act and does not indicate the low-exposure places that the electro-hypersensitive need. The document sets out seven recommendations.

1. Purpose

The Request for Information asks what scientific methods are currently available to characterize individual and population-level exposure to RF radiation (Question 7), what improvements in exposure assessment methodologies would be needed to account for real-world exposure conditions (Question 8), and what technical and exposure-related information should be disclosed to consumers, residents, workers, schools, health care providers, and local governments (Question 9).

We answer on the basis of the European systems we know and of our own measurement practice. The exposure limits themselves are addressed in Document 2; information intended for physicians, in Document 8 (Section 7) and in Document 9.

2. Methods and Sources

Our sources are of five kinds: French legislative and regulatory texts, consulted in their own text; the protocol, reports, and press releases of the French National Frequency Agency (ANFR); court decisions, known from our files; peer-reviewed publications, read in full unless otherwise stated; and documents from associations, businesses, and industry, whose position is stated. The microenvironmental measurement studies of [Urbiniello et al. \(2014\)](#) and [Beláčková et al. \(2025\)](#) are cited from the analyses in our files; the New York study by [Thielens et al. \(2026\)](#), from its abstract and the Environmental Health News report. The 2023 ANFR press release on a phone model, the 2025 release on the national simulation, and the law of February 9, 2015, were checked against their text on October 19, 2026; the quoted passages from the ANFR measurement protocol, from its two June 2025 reports, and from the GSMA report, on October 20, 2026. The 2020 and 2021 ANFR press releases on its sensors, its 2020 article on spectrum monitoring, the page of the Swiss Federal Office for the Environment on adaptive antennas, and the Brussels Environment page on the enforcement of standards were consulted online on October 20, 2026, in excerpts. The action sheet from Bagnères-de-Bigorre was read in full; the commercial offer of an EMF assessor and the Belgian data are reported from our files. Quotations in English are reproduced as written. Quotations from French sources are our translations; the original wording appears in the French version of this document.

3. Existing Methods (Question 7)

3.1 Two Tiers of Limits, Two Quantities

The ICNIRP guidelines distinguish basic restrictions, which apply to the energy absorbed in the body—the specific absorption rate (SAR), in W/kg, and above 6 GHz the absorbed power density—from reference levels, which apply to the field measurable outside the body, in V/m or W/m², and are meant to guarantee compliance with the former. The French exposure limits, from 36 to 61 V/m depending on frequency for the mobile telephony bands, are reference levels, set by Decree

No. 2002-775 of May 3, 2002 ([French Republic, 2002](#)). In situ measurement concerns the field strength; SAR is measured only in the laboratory, on devices.

3.2 Regulatory Measurement in France

The ANFR protocol is applied by laboratories accredited by the French Accreditation Committee (COFRAC) in accordance with standard NF EN ISO/IEC 17025. It comprises a broadband measurement, which gives an overall value (case A), and, where necessary, a detailed frequency-selective measurement with a spectrum analyzer (case B); the value retained is a root-mean-square average over six minutes. When the broadband measurement exceeds 6 V/m, or on specific request, the detailed measurement is extrapolated to the maximum emission conditions of the antennas; the broadband measurement is never extrapolated ([ANFR, 2019](#)). Measurements are free of charge for the requester, and their results are published on the Cartoradio website.

Aggregate results show an increase: the mean overall exposure level rose from 0.72 V/m over the 2014–2019 period to 1.2 V/m in 2024, and the share of measurements exceeding 6 V/m from 0.6% in 2014 to 3.8% in 2024 ([ANFR, 2025a](#)). ANFR identified 74 “atypical points” in 2024; the share of points resolved, which had reached 79% for those detected in 2019 and 64% for those of 2018, stands at 22% for those of 2024, a provisional figure as of December 31, 2024, when 48 of the 74 cases were still under review ([ANFR, 2025c](#)). The threshold defining these points was raised from 6 to 9 V/m on January 1, 2026 (see Documents 1 and 2). These measurements are made at the request of private individuals or local authorities: they do not constitute a representative sample. Over eleven years, 123 measurements were made in Strasbourg and 159 in Montpellier ([ANFR, 2025a](#)).

Two recent decisions held that a non-accredited measurement was not sufficient to establish a regulatory exceedance, making accreditation the condition of proof ([Montpellier Court of Appeal, 2024](#); [Grenoble Administrative Court, 2026](#)).

3.3 Modeling

Since April 2025, ANFR has published a simulation of exposure across the entire territory of metropolitan France: it concerns the exposure “created outside buildings by mobile telephony stations,” calculated at 1.5 m above the ground, on the basis of authorized stations and a three-dimensional model of the terrain and buildings. The Agency itself specifies that “only measurements taken in the field make it possible to establish the actual level of exposure precisely” ([ANFR, 2025b](#)).

In Belgium, competence is shared between the federal State and the Regions, which are responsible for enforcing exposure standards. According to Inter-Environnement Bruxelles, the Belgian Institute for Postal Services and Telecommunications (BIPT) no longer carries out field measurements and proceeds by modeling based on data supplied by the operators; the Brussels-Capital Region supplements its simulations with an annual vehicle-based measurement campaign along a fixed route; in Wallonia, metrology is the responsibility of the Scientific Institute of Public Service (ISSeP), and antenna sites appear on a public map layer (from our files).

3.4 Research Campaigns

Three families of methods are used. Microenvironmental measurements, using exposimeters carried along fixed routes, have been conducted in Switzerland, Belgium, the Netherlands, and Spain by a single network of researchers: the network's first trend study reported a 38.2% increase in outdoor exposure in one year in Brussels ([Urbinello et al., 2014](#)); the most recent finds no significant change in downlink exposure between 2016 and 2023 ([Beláčková et al., 2025](#)). One of the main authors of this series was a member of the ICNIRP Commission from 2016 to 2024 ([ICNIRP, 2026](#)) and sat on the board of a research foundation funded by the mobile telephony industry. In New York, measurements conducted in 2024–2025 in the five boroughs across 39 frequency bands give a mean exposure of 0.97 V/m ([Thielens et al., 2026](#)). According to the Environmental Health News report, this level is more than one hundred times higher than the level recorded by the Environmental Protection Agency (EPA) in 1976 ([EHN, 2026](#)); we were unable to verify this comparison against the full text, and it most likely concerns power density, which would correspond to a factor of about ten in electric field strength. The first author is among the members of the ICNIRP Scientific Expert Group ([ICNIRP, 2026](#)); he is also a coauthor of the study by [Beláčková et al. \(2025\)](#).

Vehicle-based measurements cover large areas: in South Korea, the mean field from 3G, 4G, and 5G antennas reaches 2.49 V/m in Seoul, 1.32 V/m in a second city, designated “GJ” by the authors, and 1.04 V/m in a rural area, with 5G adding about 23% to the field ([Lee et al., 2026](#)). Finally, computational dosimetry calculates the energy absorbed by organs from the measured fields, using anatomical models of children and adults ([Lee and Choi, 2023](#)).

3.5 Individual Exposure

The SAR of phones is measured in the laboratory by manufacturers, then checked by ANFR on devices sampled from stores: in contact with the body for “limb” SAR, and at 5 mm for “trunk” SAR. In September 2023, this check led to the suspension of sales of a widely sold phone model, whose “limb” SAR reached 5.74 W/kg “for a regulatory value of 4 W/kg” ([ANFR, 2023](#)). ANFR publishes the results of these checks as open data.

The power actually emitted by a phone can be recorded with diagnostic software, which makes it possible to estimate the dose received by the user according to place and use ([Liu et al., 2026](#)).

Private individuals have access to consumer devices. We ourselves use a broadband detector, which sums the energy received between 50 MHz and 10 GHz into a single value and does not make it possible to identify the sources; without a calibration certificate, it serves to compare places, not to establish a level. In our experience, an electro-hypersensitive individual should have at least a basic measuring device, one that makes it possible to locate the sources and to choose the places where one lives and sleeps; such a device costs about €250. Professional EMF assessors use more sensitive analyzers, but according to the commercial offer of one of them, most of that assessor's colleagues measure only from 15 $\mu\text{W}/\text{m}^2$, or about 0.075 V/m ([Habitats pour électrosensibles, 2026](#)).

4. What the Methods Do Not Capture (Question 8)

4.1 The User's Phone, Excluded from Measurement

The ANFR protocol recommends switching off, during the measurement, “equipment whose emissions are controlled and non-permanent,” which includes phones (ANFR, 2019). The national modeling does not take them into account either. Yet in French 4G networks, the phone's share of the dose received in one month by a typical user reaches, at 2,600 MHz, 30% for the head and 12.8% for the whole body when the field from the antennas is 1 V/m, and 75% and 50.4% when it is 0.38 V/m (Liu et al., 2026). The phone transmits more strongly where the network is less dense: in rural and periurban areas rather than in cities, indoors rather than outdoors. Users who move away from antennas therefore receive less from them and more from their own phones, which neither measurement nor simulation shows.

4.2 Antennas, the Dominant Share over Time

Depending on the network and on use, the share of the antennas may again become predominant over time. In Seoul, for 24 hours of exposure to antennas and 10 minutes of calls, the energy absorbed by the whole brain of a six-year-old child reaches about 300 mJ/kg from the antennas and 2 mJ/kg from the phone (Lee and Choi, 2023). For a child living in the countryside who watches two hours of video and makes ten minutes of calls per day, Lee et al. (2026) calculate 1.33 J/kg per day from the antennas and 0.079 J/kg from the phone. The authors of the French study emphasize that downlink exposure, weak at any given instant, produces through its continuity “significant cumulative effects at the population level” (Liu et al., 2026). Assessment must therefore cover both sources and the duration of exposure.

4.3 Beamforming

5G beamforming antennas concentrate their signal on the user. A simulation on four anatomical models shows that at 3,500 MHz, under simplified beamforming, a field set at the reference level leads to exceeding the local basic restriction of 2 W/kg for all four models, with values of 131% to 158% of that restriction; the authors conclude that the ICNIRP reference levels at 3,500 MHz and 7 GHz “do not guarantee compliance with basic restrictions when beamforming concentrates energy on the body,” while specifying that their beamforming scenario is not an upper bound and that the exposure measured in deployed 5G networks remains three to four orders of magnitude below this reference level (Wydaeghe et al., 2026). At the same time, the global association of mobile operators is asking countries to assess the compliance of base stations on the basis of their actual maximum emissions (“actual maximum approach”) rather than theoretical maximum parameters, which it considers “especially important to the accurate assessment of advanced antennas with beamforming capabilities” (GSMA, 2026). The first line of work shows that field measurement may underestimate local exposure; the second would reduce the assessed values.

4.4 Averages, Peaks, and Detection Thresholds

Regulatory measurement retains a six-minute average, extrapolated to maximum emission conditions above 6 V/m or on request. The guideline of the European Academy for Environmental Medicine (EUROPAEM), by contrast, calls for peak measurement, at the bed and at the workplace, and proposes for mobile telephony and DECT guidance values of 100 $\mu\text{W}/\text{m}^2$ during the day, 10 $\mu\text{W}/\text{m}^2$ at night, and 1 $\mu\text{W}/\text{m}^2$ for sensitive populations, i.e., 0.19, 0.06, and 0.019 V/m (Belyaev et al., 2016). A device that measures only from 0.075 V/m cannot verify compliance with the last two values. Measurement uncertainties appear in accredited reports but rarely in information intended for the public; the protocol aims at an expanded uncertainty of 4 dB and allows up to 6 dB, i.e., a factor of 2 in field strength and 4 in power (ANFR, 2019).

4.5 Low Frequencies and Power Line Communication

The national simulation and most campaigns cover only radiofrequency fields. Smart electricity meters superimpose on the 50 Hz household current a communication signal in the 35.9 to 90.6 kHz band (G3-PLC) or at 63.3 and 74 kHz (G1). We have identified no study of the biological effect of this composite signal as it exists in homes; the reference studies on sensitivity to low frequencies concerned, to our knowledge, a pure 50 Hz field, in the laboratory. For the 3 kHz to 3 MHz range, EUROPAEM proposes guidance values of 0.1 V/m during the day and 0.01 V/m at night for the electric field (Belyaev et al., 2016).

4.6 The Choice of Locations

A campaign that measures only one network, that measures at the foot of antennas, where the main beam passes above the measurement point, or that selects its sites, can produce low values without any of the data being false. The representativeness of a measurement depends on these choices, which must be declared.

4.7 What Antennas Actually Emit

Regulatory measurement concerns the field received at one point, at a given moment. What each antenna actually emits, hour by hour, is not measured continuously by any body independent of the operators. In France, from 2020 onward, ANFR installed autonomous sensors in a few large cities—Marseille, Nantes, Paris, Bordeaux, Mulhouse, Lille, and Orléans as of September 2021—which measure the ambient field from 80 MHz to 6 GHz about ten times a day, for six minutes, and publish the values (ANFR, 2020; ANFR, 2021). They provide information on exposure at a few points; they do not show what each antenna emits. ANFR site inspections record the coordinates and the characteristics of the tower, of the installations, and of their users, and compare them with the registered data (Spanjaard-Huber, 2020). For France, we found no public information on how the power actually emitted is compared with the authorized power, nor on the existence of automatic power limiters.

Other countries show that such control is possible, but it relies on the operators' own data. In Switzerland, the operators' quality assurance systems continuously compare the transmitted powers with the authorized values, and adaptive antennas that benefit from a correction factor

must be equipped with an automatic power-limiting device (FOEN, 2021). In Brussels, the environmental permit may require an automatic transmit-power limiting system; several times a year, Brussels Environment asks the operators for extracts from their network management systems in order to check the parameters of more than 15,000 transmitters; its forty sensors, which measure the field twelve times a day, are not precise enough to be compared directly with the standard (Brussels Environment, 2025).

5. What Should Be Made Public (Question 9)

5.1 What France Already Publishes

Law No. 2015-136 of February 9, 2015, provides for extensive information (French Republic, 2015). An operator planning an antenna sends the mayor an information file before applying for a planning permit—two months before, a period reduced to one month in 2018—accompanied, at the mayor's request, by a "simulation of the exposure to electromagnetic fields generated by the installation," and this information is made available to residents. According to the implementing regulations, the file lists the daycare centers, schools, and health care facilities located within one hundred meters (about 330 feet). "A national inventory of the atypical points of the territory is drawn up each year by the National Frequency Agency." ANFR makes a map of existing antennas available to municipalities. For radio equipment offered for sale, "the specific absorption rate is indicated in a legible, intelligible manner and in French"; the instructions explain how to activate and deactivate wireless internet access, where the device allows it, since the law does not require that deactivation be possible; and "establishments offering Wi-Fi access to the public indicate this clearly by means of a pictogram at the entrance to the establishment." Measurement results are published on Cartoradio, the national simulation can be consulted there, and SAR checks are published as open data.

5.2 What This Information Does Not Allow

Information carries no power. The mayor who receives the file cannot oppose the project on health grounds (see Document 2), and can only give residents the opportunity to submit comments, which have no binding effect. The inventory of atypical points comes with a falling resolution rate and a raised threshold. The national simulation represents only outdoor exposure, whereas most time is spent inside buildings, and at night in bed. The SAR displayed is that of standardized tests, and the non-compliance of one model was revealed only by an after-the-fact check.

Above all, nothing indicates low-exposure places. An electro-hypersensitive individual looking for a place to live or to stay must today reconstruct, unaided, from antenna maps, coverage maps, and personal readings, what the ANFR simulation already partly contains. Meanwhile, low-exposure areas are shrinking as coverage expands (see Document 1).

5.3 Local Initiatives

Some local authorities are considering carrying out measurements themselves. A slate of candidates running in the 2026 municipal elections in Bagnères-de-Bigorre proposes to train and

equip a municipal employee, to measure indoors and outdoors “giving priority to places that receive vulnerable individuals,” to map peaks, and to identify sources; for the equipment, it reports estimates from equipment suppliers ranging from €1,000 to more than €25,000 depending on the frequency range covered ([Bagnères citoyenne, 2025](#)).

6. Discussion

European systems measure well what they were designed to measure: compliance, at one point and at one moment, with a reference level based on heating. They do not measure the real exposure of an individual, which adds together the continuous field from antennas, often dominant over the day, and the emissions of the individual's own phone, dominant for the head during use, and stronger the weaker the network. They do not capture the local concentration of energy produced by steerable-beam antennas, nor low frequencies, and they do not continuously monitor what antennas emit. French measurements show rising exposure, but their sample is not representative; the studies that conclude that exposure is stable cover a short period, from 2016 to 2023; long-term comparisons, such as the New York one, conducted by a researcher from the same network, indicate a substantial increase. The information published in France is extensive, but it describes the infrastructure without giving any leverage over it and does not indicate low-exposure places.

7. Limitations

Our measurement practice relies on an uncalibrated consumer device and claims no probative value. Several of the studies cited rely on a limited number of anatomical models and on typical usage patterns; vehicle-based measurements are made outdoors. The data for Belgium come from regional and advocacy sources. The authors of several of the studies cited belong to networks linked to ICNIRP or to industry: in addition to those mentioned in Section 3.4, J. Wiart, a coauthor of four of them, is presented by [Lee et al. \(2026\)](#) as chair of the technical committee of the European Committee for Electrotechnical Standardization (CENELEC) responsible for exposure standards.

8. Recommendations (Questions 7, 8, 9)

1. Measure real exposure: protocols that include the emissions of personal devices and the field from antennas, inside homes, over at least 24 hours, as peak and average values, with a statement of uncertainty.
2. Assess the compliance of beamforming antennas against basic restrictions, and not against reference levels alone, and subject any method based on actual emissions to an independent assessment of its effects on local exposure.
3. Require the measuring instruments used to inform the public to have a detection threshold compatible with precautionary values, i.e., 0.02 V/m at most.

4. Bring low frequencies and power line communication within the scope of measurement, and fund the study of their combined effect.
5. Establish continuous monitoring by fixed stations, managed by a body with no ties to the operators, with publication of the raw data, and equip each antenna with an automatic power limiter whose operation is verified by that body.
6. Make public, in an accessible form: the map of existing and planned antennas, indoor and outdoor simulations, measurement results, the SAR measured in contact with the body, and a map of low-exposure areas, with a view to preserving those that remain and reconstituting others.
7. Recognize that each electro-hypersensitive individual should have a high-performance measuring device, one that makes it possible to measure quickly the environment in which one lives and to leave it if necessary, so as not to have to suffer its effects.

Glossary

Term	Meaning
3G, 4G, 5G	Third, fourth, and fifth generations of mobile telephony networks.
Absorbed power density	Power absorbed per unit area of skin; ICNIRP basic restriction above 6 GHz.
Adaptive antenna	Antenna whose transmission direction or radiation pattern changes automatically at short intervals, notably through beamforming.
ANFR	Agence nationale des fréquences (French National Frequency Agency): French public body responsible for managing radio frequencies and for monitoring public exposure, notably the SAR of phones sold in France.
Atypical point	Location where the measured exposure clearly exceeds usual levels; the threshold, 6 V/m until 2025, has been 9 V/m since January 1, 2026.
Automatic power limiter	Device that keeps the power transmitted by an antenna, averaged over a given period, below a set value.
Autonomous sensor	Fixed probe that measures the ambient field at regular intervals and transmits its readings remotely.
Base station	A mobile telephone installation comprising one or more antennas.
Beamforming	Technique by which an antenna concentrates its signal in the direction of the user instead of emitting it uniformly.
BIPT	Belgian Institute for Postal Services and Telecommunications (IBPT in French): Belgian federal telecommunications regulator.
Cartoradio	Public ANFR website that locates antennas and publishes the results of exposure measurements as well as the national simulation.
Case A, case B	In the ANFR protocol, overall broadband measurement (case A) and detailed measurement by frequency, source, or sub-band (case B).
CENELEC	European Committee for Electrotechnical Standardization.

Term	Meaning
COFRAC	Comité français d'accréditation (French Accreditation Committee): body that attests to the competence of measurement laboratories.
Computational dosimetry	Calculation, by simulation on an anatomical model, of the energy absorbed by tissues.
Correction factor	In Switzerland, coefficient applied to the authorized power of an adaptive antenna to account for the variability of its transmission directions.
Decibel (dB)	Logarithmic unit of ratio: 3 dB corresponds to a factor of 2 in power; 6 dB, to a factor of 4 in power and 2 in field strength.
DECT	Standard for household cordless phones, around 1.9 GHz; the base transmits even when idle, except in ECO mode.
Downlink exposure, uplink exposure	Downlink exposure comes from base station antennas; uplink exposure, from the user's phone.
ECO mode	Mode of DECT cordless phones in which the base stops transmitting, or transmits only very weakly, when no call is in progress.
EHN	Environmental Health News: U.S. media outlet devoted to environmental health.
Electro-hypersensitivity, electrosensitivity	Electrosensitivity refers to a sensitivity to electromagnetic fields shared, to varying degrees, by all human beings; electro-hypersensitivity, to its highest degrees. We regard it as a syndrome, not as a disease (see Document 4, Section 3.1).
EPA	Environmental Protection Agency: U.S. federal agency for environmental protection.
EUROPAEM	European Academy for Environmental Medicine, which in 2016 published a guideline on the prevention, diagnosis, and treatment of disorders related to electromagnetic fields.
Expanded uncertainty	Interval within which the true value of a measured quantity lies with high probability.
Exposimeter	Body-worn measuring device that continuously records the field received in several frequency bands.
FOEN	Swiss Federal Office for the Environment (OFEV in French): Swiss federal administration responsible, among other things, for applying the Ordinance on Protection against Non-Ionising Radiation.
G1, G3-PLC	Successive generations of the power line communication technology of French smart electricity meters: signals at 63.3 and 74 kHz (G1), 35.9 to 90.6 kHz band (G3-PLC).
GSMA	Global association of mobile network operators.
Hertz (Hz, kHz, MHz, GHz)	Unit of frequency: one kilohertz equals one thousand hertz, one megahertz one million, one gigahertz one billion.
HHS	Department of Health and Human Services: U.S. federal health department, to which this contribution is addressed.
ICNIRP	International Commission on Non-Ionizing Radiation Protection: a private-law association registered in Germany, whose guidelines underpin European exposure limits.

Term	Meaning
ISSeP	Institut scientifique de service public (Scientific Institute of Public Service): Walloon public body for environmental metrology.
Microenvironment	Type of place (shopping street, public transportation, park, etc.) in which exposure is measured along a fixed route.
NF EN ISO/IEC 17025	International standard setting out the competence requirements for testing and calibration laboratories.
Peak value	Maximum value of a signal over the duration of the measurement, as opposed to its average value.
Power line communication (PLC)	Data transmission by superimposing a signal of a few tens of kilohertz on the electric current of existing wiring.
Quality assurance system	In Switzerland, the operators' system that continuously compares the power transmitted by each antenna with the authorized values, under the supervision of the authorities.
Reference level, basic restriction	The basic restriction limits the energy absorbed in the body; the reference level limits the field measurable outside the body and is supposed to guarantee compliance with the former.
Root mean square (RMS)	Effective value of a signal: the square root of the mean of its squared values.
SAR	Specific absorption rate: power absorbed per unit mass of tissue, in watts per kilogram; it is used to verify the compliance of devices worn close to the body.
Spectrum analyzer	Device that measures the field frequency by frequency and makes it possible to identify its sources.
V/m, $\mu\text{W}/\text{m}^2$	Units of field intensity: the volt per meter measures the electric field, the microwatt per square meter the power density; $S = E^2/377$ converts one into the other.

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