



**Tell someone about
5G**

Frequency Emissions

**5G,
4G, 3G, 2G,
4G LTE**

Global Roll-out of 5G



Department for
Digital, Culture,
Media & Sport

Freedom of Information Team
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5 November 2019

Alan Dransfield
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Our Ref: FOI2019/11365

Dear Mr Dransfield,

Thank you for your email of 21 October to the Secretary of State for Digital, Culture, Media and Sport in which you made the following request for information:

- 1. Please provide me with a copy of the Environmental Protections Plans for the 5G system Nationwide .***
- 2. Please provide me with a copy of the H&S Preconstruction Plans for the 5G systems.***
- 3. Please provide me with a copy of the technical details for the .Nation wide 5G System.***

Your request has been passed to the Department for Digital, Culture, Media and Sport and I have dealt with your request under the Freedom of Information Act 2000 (the Act). I can confirm that DCMS does not hold information within scope of any parts of your request.

For your information, the government's primary role in the rollout of 5G networks will be to create a policy and regulatory environment which will ensure the right conditions for the development and support the deployment of 5G networks. The department is not responsible for the deployment of the networks themselves, which will be conducted by the mobile network operators.

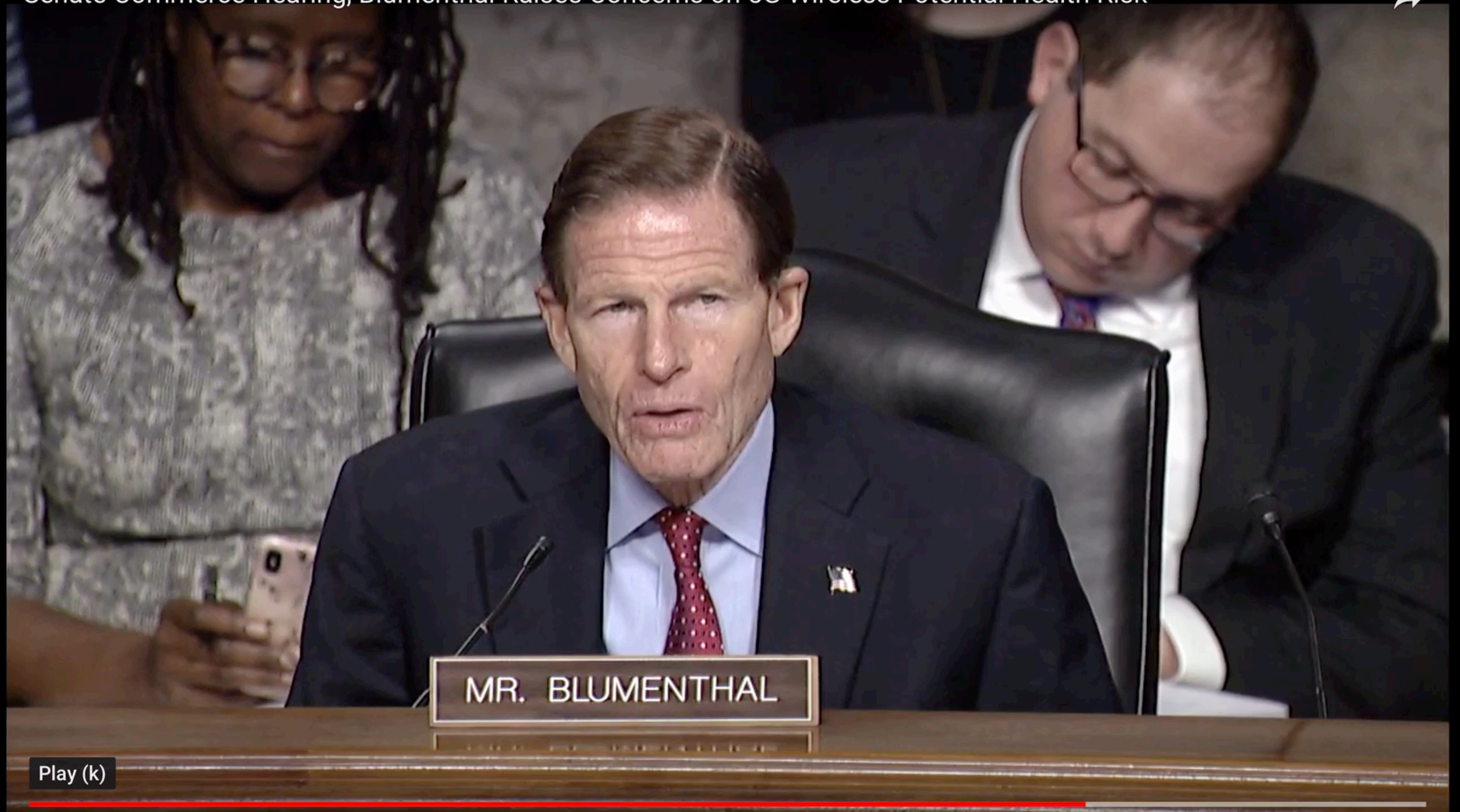
Yours sincerely,

Freedom of Information Team
Department for Digital, Culture, Media and Sport



“We won’t wait for the standards”..”

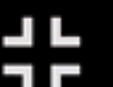
Tom Wheeler of Federal Communications Commission in US - 2016



Play (k)



3:37 / 4:48



ICNIRP

International Commission on Non-Ionising Radiation Protection



My information is, as I say from people
far more knowledgeable than I am

ANM

Pause (k)



5:34 / 15:54



Treaty on the Functioning of the European Union

Article 191

the Precautionary Principle enables

**“a rapid response to be given in the face of a possible danger
to human, animal or plant health,
or to protect the environment.”**

“The precautionary principle may only be invoked when the three preliminary conditions are met:

- 1. identification of potentially adverse effects;**
- 2. evaluation of the scientific data available;**
- 3. the extent of scientific uncertainty.”**

“In particular, where scientific data do not permit a complete evaluation of the risk, recourse to this principle may, for example, be used to stop distribution or order withdrawal from the market of products likely to be hazardous.”

**Public Health England and
Public Health Wales
both refer to ICNIRP**

Roll of UNCRC / Children's Commissioner WFGen Act



IGNORE ICNIRP



Pause (k)



5:45 / 7:28



ICNIRP
International Commission on
Non-ionising Radiation Protection

What does the “protection” stand for?

Thermal Effects

ICNIRP

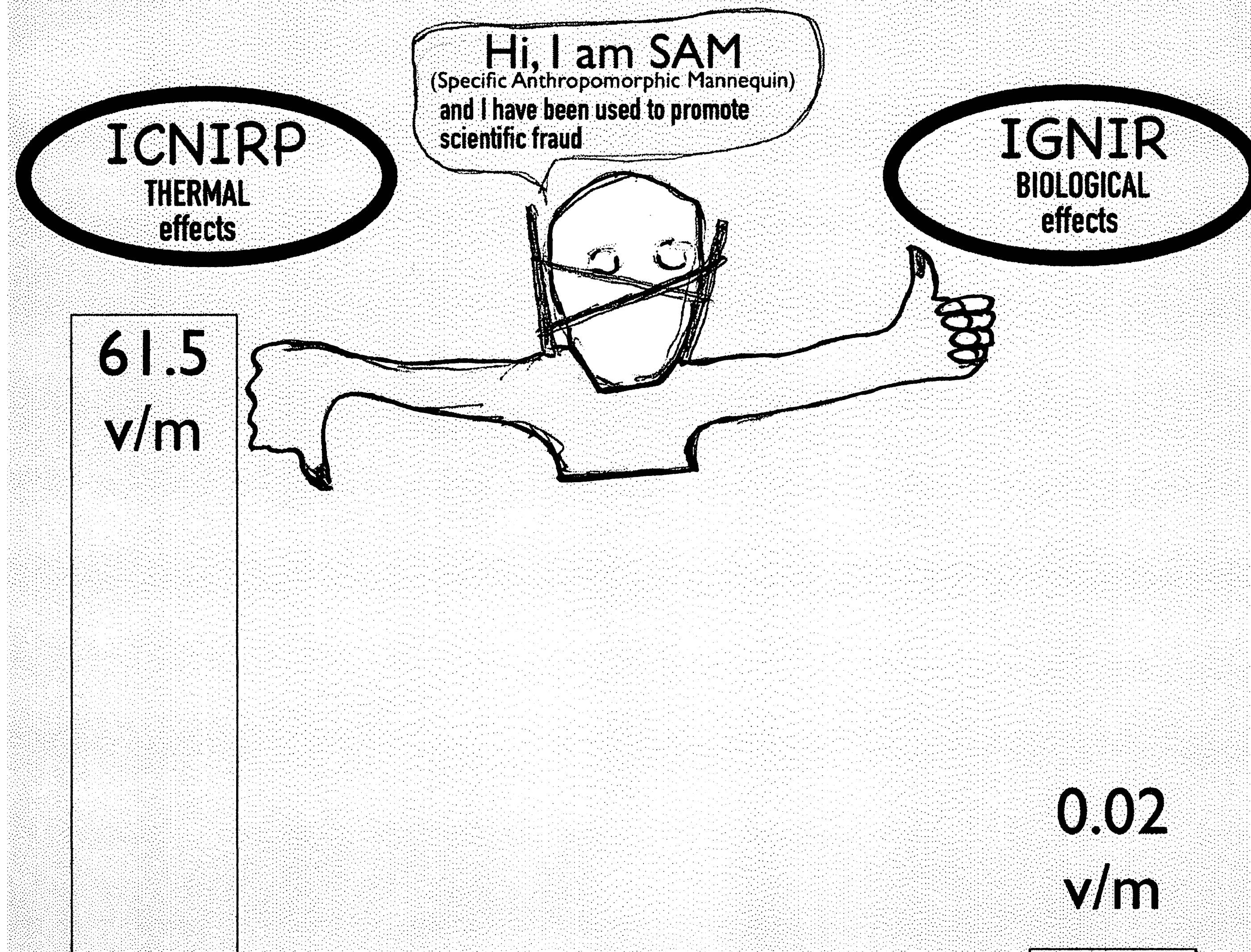
Biological Effects

EUROPAEM, IGNIR & OTHERS

Medical Conditions linked with EMF Exposure

- Autism
- ADHD / Behavioural
- Epilepsy
- Arrhythmia
- Tinnitus
- Hormonal Disruption
- Food Allergies
- Sterility
- Multiple Chemical Sensitivity
- Alzheimer's
- Parkinson's
- Cardiovascular
- Thyroid Dysfunction
- Cancer
- Migraine
- Mood Disturbance
- Insomnia
- Electromagnetic Hypersensitivity

How electromagnetic frequency emissions are measured



A chart to represent the differences between:

- Background environmental level;
- Biological Guidelines (*IGNIR*) maximum long-term;
- Heating Guidelines (*ICNIRP*) maximum short-term (6 min.)

RF Power Density in microWatts per meter squared: $\mu W/m^2$

Background: 0.000001
Biological: 100-10-1
Heating: 9,600,000-4,500,000

Electric Field
in Volts per meter: V/m

RadioFrequency
30 MHz to 300 GHz

HEATING
(*ICNIRP*)

61.0
(1.8 GHz)

41.0
(900 MHz)

BIOLOGICAL
(*IGNIR*)

Sensitive: 0.02
Night: 0.06
Day: 0.2

BACKGROUND
LEVEL

0.00002

Time-varying or information-carrying signals are more biologically active than continuous waves. For RF Power Density, background environmental levels are roughly a million times lower than Biological Guidelines, which are roughly a million times lower than Heating Guidelines.

Frequency range	Metric	Type of reading	D Day	N Night	S * Sensitive *
Radio Frequency 30 MHz – 300 GHz	V/m	average	0.06	0.02	0.006 to <0.001
	$\mu\text{W}/\text{m}^2$		10	1	0.1
	V/m	maximum	0.2	0.06	0.02 to <0.002
	$\mu\text{W}/\text{m}^2$		100	10	1

Frequency range	Metric	Type of reading	D Day	N Night	S* Sensitive*
**VLF 3 kHz – 300 kHz	V/m	average	0.1	0.03	0.01
	nT	average	1	1	0.3
	nT	maximum	10	10	3

Frequency range	Metric	Type of reading	D Day	N Night	S* Sensitive*
ELF 15 Hz – 3000 Hz	V/m	average	10	3	1
	nT	average	300	100	30
	nT	maximum	1000	300	100

* Sensitive:

(a) Sensitive groups include children, the elderly, fetuses, pregnant women, the ill and people with EHS.

(b) Electrohypersensitive (EHS) people can have mild, moderate or severe sensitivity.

Recommended non-ionising radiation guidelines set by organisations

