

Frequently Asked Questions (FAQ)

Where is the Head Office of the company?

The head office of NESARadiation Solutions is located at Vashi, Navi Mumbai. The address is as mentioned below:

NESA Radiation Solutions Pvt. Ltd.
2nd Floor, Plot No. 31,
Sector 19C, Vashi
Navi Mumbai 400 705

What does NESARadiation Solutions do? How old is the company?

The company was founded in the year 2012. Its core expertise is in the field of Electromagnetic Radiation Measurement and Shielding Solutions.

Is the company a Government Body?

No, the company is a private enterprise and provides protection against radiation.

Is it a Profit Oriented company?

The original idea was mainly a research project regarding radiation as an issue and its possible solution.

However, when we decided to take this radiation solution invented to the public, then it became almost impossible to give out our radiation solution to the public for free, although we would have loved to do so if finance was not an issue and if we were a charitable trust being completely funded by external bodies including the government.

At the moment, there are costs involved in manufacturing, marketing, employee salaries, maintenance and running of office(s), etc. These costs have got to be covered and we also need revenue for future research and development of our company and the radiation solutions. Hence, we cannot afford to avoid making profit, purely for survival reasons.

How is the Radiation pattern of an Antenna?

The radiation pattern of an antenna refers to the directional dependence of the strength of radio waves from the antenna. In simple words it means the direction of the waves in which the power transmitted by the antenna is of a sufficiently high level. For a cell tower antenna the radiation pattern is basically a lobe. It radiates majorly in the forward direction which is called as a major lobe or a primary lobe that radiates 65 degrees in the horizontal plane and 6 degrees in the vertical plane and in all other directions it radiates very little power which is about -13 to -20dB below the primary lobe and these are called as side lobes or secondary lobes.

Is there any reduction in the radiation if the antennas are placed at a greater height?

Yes. The radiation pattern of an antenna is a lobe and the power is inversely proportional to the square of the distance, if the antenna is placed at a greater height there will be reduction in the levels of radiations

Does Radiation seep through walls also?

Yes, radiation coming from a cell phone tower can seep through walls. However it depends on various factors like, the thickness of the wall, the brick cement proportion of the wall as well as the intensity of power transmitted by the cell tower antenna.

Is Radiation high during the day time as compared to night?

Yes, radiation due to cell phone towers is marginally higher during the day as compared to night because the usage of a cell phone or cell phone traffic is more during the day as compared to night

Does radiation reduces during Monsoon?

Yes, radiation from the cell phone towers does marginally reduce during monsoon because the rain drops attenuate a certain amount of radiation coming from the towers.

Does radiation also leaks from feeder cables connected to the Antennas?

Yes, in certain cases there is a leakage from feeder cables connected to the antennae; however the magnitude of this leakage is very small unless the feeder cable is damaged.

Does Radiation also affects the building in which the antenna is Installed?

Yes, radiation can affect the residents in the building on which the antenna is installed. This can happen under three scenarios:

- a. If the antenna is installed on the terrace of the building then the top floors of the building may suffer from high levels of radiation.
- b. If the antenna is wall mount on the building then the radiation in the backward direction will be sufficiently high for the floor on which the antenna is mounted
- c. The radiations may get reflected from an adjacent building and cause problems for the building on which the antenna is mounted

What is the frequency range of cell tower/ cell phone/Wi-Fi/cordless/Microwave Oven/TV Tower/X Ray or Medical Screening Machines etc?

Device	Frequency Range
Cell Towers	0.8-2.8GHz
Cell Phones	0.8-2.8GHz
Wi-Fi	2.4 or 5.0GHz
Cordless	2.4- 2.4835GHz or 5.725 – 5.850GHz
Microwave Owen	2.45GHz
TV Tower	150-300MHz
X ray	3×10^{16} - 3×10^{19} Hz

How authentic is the Bioinitiative report.

Bioinitiative report in the report made by 29 scientists around the globe who are involved in doing this research on health hazards due to radiations.

Is the standard recommended by world health organization(WHO)?

The World Health Organization does not recommend any standards regarding to cell tower radiations because it is not a body that sets standards or recommends them.

However, even WHO has classified cell phones as Class 2B carcinogens in May 2011

What are the Indian Standard (ICNIRP) and the health standard (Danger, Caution and Safe) in dBm, milliwatt/m.sq , microwatt/m.sq , watt/m.sq.

Standard	dBm	microwatt/m.sq	milliwatt/m.sq	watt/m.sq
ICNIRP	+8	445,998.51	445.998	0.445
Danger Zone	-15	2,235.29	2.235	0.002
Caution Zone	-29	88.99	0.0889	0.0008
Safe Zone	-30	70.69	0.0706	0.0007

How much time can we spend in a particular room where the readings are in DANGER and CAUTION Zone?

There is no specific time in which we can get affected by the radiation, but it is recommended that you spend as less time as possible in the room where readings are in the danger or caution zone. Also the effects depend on the the immunity of a person and duration of exposure. Prolonged exposure for 1-2 years can be highly hazardous for readings in the danger zone. In the caution zone, 3-4 years of exposure can be harmful to health.

What care should be taken for curtains, especially while washing/cleaning them?

The curtains are to be dry cleaned or they are to be hand washed. The use of brush and harsh cleaning should be avoided.

Does the Shielding Film protect from UV rays too?

There are two types of shielding films i.e. transparent and dark films

The dark films will provide protection against UV rays.

What are CMLs?

CML stands for capacitive matched loads. They are used to absorb the radiation and convert them into heat and dissipate it into environment. The heat generated due to the conversion is almost negligible and will not cause any prominent rise in the temperature.

What is SAR value?

Specific absorption rate (SAR) is a measure of the rate at which energy is absorbed by the human body when exposed to a radio frequency (RF) electromagnetic field. SAR is usually averaged either over the whole body, or over a small sample volume (typically 1 g or 10 g of tissue). The value cited is then the maximum level measured in the body part studied over the stated volume or mass.

It is defined as the power absorbed per mass of tissue and has units of watts per kilogram (W/kg).

Do you have any sort of 'Discount' schemes that customers can qualify for?

NESA provides a discount of 50% on radiation measurement and 20% on Radiation shielding for cancer patients. We would just require a photocopy of the hospital report with the medical details of the patient for our reference.

What are the Health hazards of Cell Tower Radiation

There are several health hazards that are associated with cell phones and cell towers. Some of the more prominent ones are listed below:

Sleep disorders, dizziness, concentration problem, memory lapse, cardiovascular trouble, fatigue, palpitation, depression, etc.

It can also lead to more serious problems such as Alzheimer ,Parkinson's, Immune system degradation, tinnitus and ear damage, irreversible infertility, effect on skin, DNA damage and also an increased risk of cancer.

What is Cell Tower Radiation?

Cell Tower Radiation is the Electromagnetic Energy radiated by a Cellular Antenna. As people use cell phones to make calls, signals are transmitted back and forth to the base station. The RF waves produced at the base station are given off into the environment, wherein people can be exposed to them. Whereas, people staying near cell tower are exposed for 24 hrs.

Does Radiation affect us?

If the radiation is found on the higher side then it can prove quite fatal to human beings as well as to the surrounding environment. Even the WHO has classified Cell Tower Radiation as a type 2B human carcinogen, in 2011. However, the effects of radiation differs from person to person based on the immunity system of an individual as well as the duration of exposure.

How do you do the radiation check?

A team of trained engineers carry out this exercise. They carry one radiation monitor which gives a cumulative reading of the radiation exposure in the premises. They also carry Spectrum Analyzer which gives the readings of different individual frequencies. It basically

helps us to find out which frequency is more dominating in an individual premises. It is also used to find the location of antenna.

What is the unit in which you measure the radiation?

We do the radiation measurement in dBm unit, decibel milli Watts. But for your convenience we convert the respective dBm reading to Watt/m², milli watt/m², microwatt/m²

What after measurement?

After carrying out the measurement, we then submit you a formal report which indicates all the radiation distribution/readings we have come across at your residence, room-by-room wise. Also there would be one more report where we have summarised all the readings, the radiation norms in India as well as globally. Also, if the radiation level is found to be in caution or danger zone, we would incorporate the suggested Shielding Solutions to reduce the radiations in that particular room.

What is the pricing for measurement?

The cost for measurement depends on the built-up area of the residence/office.

Is there any solution to protect ourselves from harmful radiations?

You can ask the cell tower operators to reduce the transmitted power & bring it within the safe level from health point of view or tell them to remove the tower. Another solution would be to shield your houses by availing our services.

What makes your products to make our home/office safe from radiation?

Our products are based on the absorptive technology which absorbs the EMF radiations, converts it into heat energy and dissipates in the environment.

Who sets the guidelines for India and what are they?

DOT- (Department of Telecommunication) is the government body which sets the rules. As of 1 September 2012 we are following 1/10th Of the ICNIRP guidelines. As per the current guidelines, operators can transmit Freq/2000 w/m² – for freq from 400-2000 MHz 1 w/m² - for freq above 2000 MHz – 300 Ghz