

What's this big strap for?

The trick was, there were micro-waves radiated into the room!

Ubiquitous power source

A weak microwave is transmitted

You now have full battery!

In that situation, run into this room, and how magical!?

For example...! "my cell-phone's about to die!"

What would you use microwave-transmitted energy for?

As electricity!

What is "Microwave Power Transmission!"

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without fire

But...

Yep! You can warm up food in an instant.

Yummy~

Beep!

How does food warm up in a microwave?

What an efficient tool a microwave is!

Your dinner?

Amazing!

mwahaha

There is an even bigger plan, and that is...

Solar Power Satellite!

make it cool, please

This is known as a **rectenna**, a device to convert microwaves into electricity that we can use.

We can now charge our phones anywhere!

radio waves

microwaves

30GHz 1cm

1GHz 30cm

cell-phones

ETC

AM radio

FM radio

TV

How long are microwaves then?

Many radio waves of different wavelengths are used in this world, and a microwave is one of them. For example, the radio wave used for television broadcasting measures to be about 0.5 to 3m.

The food is warmed due to the radio wave "microwave" radiated inside the machine.

Great question!!

costume change...

But you couldn't connect several million km of electric wires all the way to outer space, so that's where microwave power transmission comes into application. You won't need electric wires if it's transmitted via radio waves.

Solar Panels

Solar Rays

Transmission Antenna

Solar Power Satellite

Microwaves

Giant Rectenna

Electricity

Solar Power Satellite is said to become the power plant of the future. You'd have a satellite full of solar panels, and the electricity generated will be sent to earth.

And it is beginning to be used for something new! that is...

1~30cm roughly. They're about 12cm in the machines.

Length of a microwave

Generates even at night

Transmits even through clouds

Thinned and diluted microwaves

Aren't they really...?

Microwaves are amazing!

Of course the energy sent via radio waves are thinned and diluted not to affect you.

This is a groundbreaking power plant that generates clean solar electricity 24 hours a day, 365 days a year.

I wonder if they've eaten...?

Haha no, it's because the waves are shielded by a box that a microwave oven can warm up food.

You mean, we are being warmed by gadgets everyday?

TVs and cell-phones transmit information carried by radio waves, yet what they're doing essentially is transmitting energy.

microwave power transmission!

The fact that you can warm up food in a microwave proves that radio waves themselves carry energy.

but what is microwave power transmission now?

Power density of radio waves in daily life is very low, ...

warm up...!

phew.

Check out this website for more details on Solar Power Satellite! >>> <http://space.rish.kyoto-u.ac.jp/sps-e.html>