

# RFMS

## RF MONITORING SYSTEM

### ELECTROMAGNETIC RADIATION

The effects produced by electromagnetic radiations on humans are a current source of concern.

All electrical and electronic devices produce electromagnetic radiation. There are special installations that need to generate electromagnetic radiation as in the case of Mobile Telephone Base Stations.

Recent years have seen the introduction of standards limiting the maximum levels of radiation permitted from these installations, but verification tests are often only performed yearly and over short periods of time.

### CONTINUOUS MEASUREMENTS (24/365)

RFMS is a state-of-the-art measuring system manufactured and developed by Wavecontrol, engineering company working in the field of electromagnetic compatibility, RF and microwave testing.

The system consists of several Monitoring Stations installed in specific locations and remotely controlled from a Control Centre.

All Monitoring Stations carry out continuous Electromagnetic Field measurements (24/365) providing averages of the obtained values as specified in many international standard requirements. All measurement data obtained is sent to the Control Center for processing.

The user may communicate with the Monitoring Stations from the Control Center to check the electromagnetic field levels and to program several parameters.

### REMOTE MONITORING STATIONS

The remote Monitoring Stations consist of an electromagnetic field measurement block, a data processor, an averaging and storage block, and a communications block which provides data transfer with the Control Centre.

### CONTROL CENTER

The Control Centre is essentially the software side of the System, in charge of receiving the periodic measurement reports from the Monitoring Stations, including all measured values from the date the last report was sent.

The Control Centre Software receives all measured data and stores it in the data base. The data base management application allows the user to display all the stored data as a list or in graphical mode view from an initial to a final date.

Wavecontrol designed GIS (Geographic Information System) is included in the Control Software. The GIS permits easy positioning of the Stations on a standard map or on a UTM coordinate aerial picture.

### ALARM SYSTEM

Remote monitoring Stations are equipped with an alert sensing system which activates an alarm when the detected field level is higher than the expected maximum value (programmable). The Monitoring Station alerts the Control Centre by sending a warning alarm.

The control Center receives this alarm warning and shows in real time which remote monitoring station is measuring field levels above the programmed level



### APPLICATIONS

**To measure and control an emission source :**

The aim is to control emission source levels produced by a specific source of radiation such as a Mobile Phone Base Station.

This permits continuous verification that the radiation produced is below the established limits.

**To control a sensitive site:**

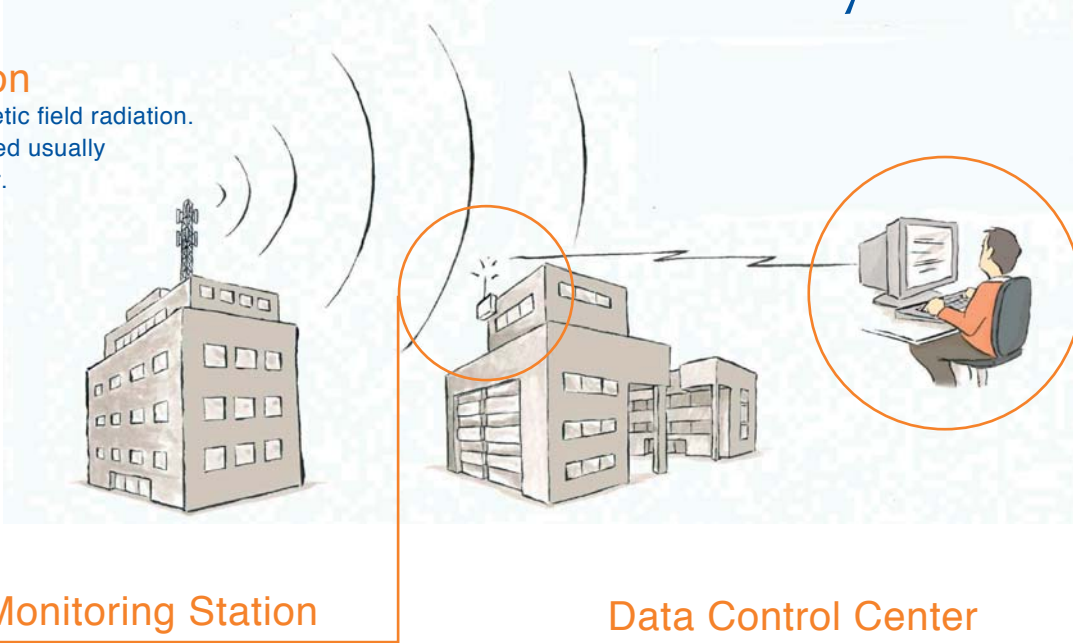
The aim is to control emission levels registered in sensitive sites such as hospitals, schools or buildings close to the radiation source.

The Remote Monitoring Station provides comprehensive control of radiation levels that people are exposed to.

# RFMS System

## Base Station

High electromagnetic field radiation.  
Field levels checked usually only once per year.



## Remote Monitoring Station

Located in specific places, performs field level measurements 24 hours/day, 365 days/year

- continuous RMS real time field level measurements
- Isotropic field sensor incorporated
- GSM, GSM1800 and UMTS measurements.
- Data averaging.
- Periodic storage of the measured data
- Alarm level (programmable).
- Measuring range: 0,06-60 V/m
- Wireless data transfer to Data Control Center

## Data Control Center

The Control Centre Software receives all measured data and stores it in the data base. The data base management application allows the user to display all the stored data as a list or in graphical mode view, from an initial to a final date.

### Configuration:

- Remote monitoring Station management:
- Unlimited number of Remote Stations.
- Measurement parameters definition: identification, alarm levels, storage time, data transfer time, etc ...

### Measurements

- Real time alarm warning.
- Instant Field Level measurement from any station.
- Reception of periodic measurement reports from the Monitoring Stations

### Alarm Warnings and data view:

- Alarm reception warning.
- Received alarms management.
- All remote stations measurements view.
- Report generator.
- GIS - map positioning of remote stations.

### Internet

- RFMS is designed to be controlled directly using any internet browser (internet access).

