

**Republic Of Sudan  
Ministry Of Telecommunication  
National Telecommunications Corporation (NTC)**



**General Department for Technical Affairs  
Standards and Quality of Services Department**

**Sudan Report**

**On**

**EMF Activities**

**20th International Advisory Committee (IAC) meeting and InterSun meeting**

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**Prepared by:**

Eng: **Eman faroug**

(eiman@ntc.gov.sd)

Eng: **Awad Mulah**

(awadmulah@ntc.gov.sd)

**Preface:**

As article 5 (g) of the communication public corporation warrant of establishment 2007 the National Telecommunication Corporation responsible for human health and the environmental will being technical specifications and general rules for mobile phone base stations. The NTC had launched field survey campaigns to check conformity of the telecommunication towers and EMF with specifications approved by the National Telecommunication Corporation, recommended by the International Telecommunication Union (ITU), the Arab ministers of communication, to gather with the regional and local specifications. The survey will monitor the violations and report them the telecom operators for rectification.

The field survey was carried in different states of Sudan while the remaining states will be schedule later.

### **Objectives:**

- Examining and checking conformity and specifications of base stations and telecommunication towers infrastructure and electromagnetic Field radiation.
- Establishing data base of every site.
- Monitoring the violations and removing them by telecommunication operators.
- Preservation of human health and environment.
- Updating and the periodic keeping pace with the technical terms and indicators.

### **Activates:**

- **Field survey equipments for checking the telecommunication towers and EMF specifications:**
  - ❖ Electro-magnetic Meter
  - ❖ Distance Meter.
  - ❖ Noise Meter.
  - ❖ Global Positioning System (GPS).
  - ❖ Site-documentation cameras.
  - ❖ Site Digital Map.
  - ❖ Computer Data Program.
  - ❖ Technical Staff.
- **Draft a federal law on the protection from the non-ionizing radiation.**
- **NTC organizing annual national survey campaigns for sake of monitoring EMF exposure level.**

### **Public concern:**

Telecommunications tower in particular the BTS and its impact for the human health, consider the main public concern in Sudan, NTC received a few complain regarding this issue.

### **The Standardization Specifications Approved by NTC for Mobile Phone Stations:**

Article 8 (f), from the NTC functions and power item in the Telecommunications Act 2001, states the following:

**“Set specifications for systems and apparatus used in the field of communication and set up the measuring and testing methods necessary.”**

<b>Specification</b>	<b>Standard</b>
Antenna height for ground towers	<b>(15 – 60) m</b>
Maximum height of on-top-building tower	<b>10m</b>
Distance between antennas and human beings in the direction of the main radiation is no less than	<b>6m</b>
Distance between antennas and nearest building horizontally in the transmit direction and at the same height no less than	<b>12m</b>
Distance between two antennas at the same building top.	<b>12m</b>
A protection fence around tower site and far from its center a distance of	<b>6m</b>
Distance between antenna and nearest school	<b>20m</b>
Maximum transmit power	<b>100W</b>
Maximum permissible electromagnetic power density	<b>0.5mW/cm<sup>2</sup></b>
Maximum permissible value of absorption level for electromagnetic radiations	<b>2w/kg</b>
Generator noise level	<b>60 dB (at a distance of 8m)</b>

▪ **The standard specifications above have been set according to:**

- Recommendations of the meeting of the Arab permanent committee of telecommunication and information (20 – 21 November 2004).
- Directives of the executive committee of the Arab ministers of telecommunication convened on (25 – 26 November 2004).
- International organizations concerned with health and environment and specialized in electrical and electronics technologies and electromagnetic radiation: World Health Organization (WHO), International Committee for Non-Ionized Radiation Protection (ICNIRP), International Telecommunication Union (ITU) and the European Telecommunication Standard Institute (ETSI).