

## ICNIRP Measurement Report

This report presents the results of measurements of electromagnetic field emission levels in the vicinity of mobile base stations. Results are presented as percentages of the power density reference levels for general public exposure in the 1998 edition of the Guidelines published by the International Commission on Non-Ionizing Radiation Protection (ICNIRP)<sup>1</sup>, with figures provided for individual frequency bands used for base station (downlink) transmissions as well as an overall figure for all other frequency bands between 420 MHz to 6 GHz. The total percentage equals the sum of all individual percentages.

The power density reference levels in the ICNIRP Guidelines are the root mean square (rms) values averaged over six minutes. In this report, we have measured the average E-field strength over a six-minute period in each measurement location.

We have applied a measurement threshold of 3dB above the system noise floor<sup>2</sup> of the measurement equipment, below which any E-field strength levels measured are deemed not sufficiently above the system noise floor to be valid. In the results tables below, measurement results are shown to a precision of four decimal places. Results which are not sufficiently above the system noise floor to record as a valid measurement are shown as a dash (-). Results which are too small to register to four decimal places are shown as 0.0000%.

<b>Date of Survey:</b>	08/12/2023	<b>Time Survey completed:</b>	12:10
<b>Survey address:</b>	Wallingford OX10		

Measurement equipment		Serial number	Calibration Date
<b>Meter</b>	Keysight Fieldfox N9915A Spectrum Analyser	MY56072613	04/07/2023
<b>Probe</b>	Agos Aria-6000 Antenna	ARIA-6000-1111	28/11/2022
<b>Cabling</b>	1.7m cable	1313	28/11/2022

<sup>1</sup> <https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf>

<sup>2</sup> The noise floor of the measurement equipment is the level of background noise that is present before detecting any external signals. In other words, it indicates the absolute minimum level of detectable signals.

**Mobile bands covered by this report**

Frequency Band	Frequency Range	Technology*
700 MHz	738-788 MHz	4G, 5G
800 MHz	791-821 MHz	4G
900 MHz	925-960 MHz	2G, 3G, 4G
1400 MHz	1452-1492 MHz	4G (Supplementary downlink)
1800 MHz	1805-1880 MHz	2G, 4G
1900 MHz	1900-1920 MHz	4G
2100 MHz	2110-2170 MHz	3G, 4G
2300 MHz	2350-2390 MHz	4G
2600 MHz TDD	2570-2620 MHz	4G
2600 MHz FDD	2620-2690 MHz	4G
3.4 GHz	3410-3680 MHz	5G, 4G
3.8 GHz	3680-4200 MHz	Various
Others**		

**Notes**

\* This is an indication of the type of technologies typically deployed in these bands; not all frequency bands and technologies may be in use at all locations.

\*\* All other frequencies.

**Survey locations**

The survey was conducted within the area shown in the map below. Measurements were taken at six locations and are presented in the following pages of this report.



**Location 1**

<b>Measurement Time:</b>	11:07
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
700 MHz	0.00142
800 MHz	0.00383
900 MHz	0.00071
1400 MHz	0.00145
1800 MHz	0.00322
1900 MHz	0.00021
2100 MHz	0.00192
2300 MHz	0.00039
2600 MHz TDD	0.00035
2600 MHz FDD	0.00030
3.4 GHz	0.00218
3.8 GHz	0.00522
others	0.08134
<b>total</b>	0.10250

**Location 2**

<b>Measurement Time:</b>	11:16
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
700 MHz	0.00123
800 MHz	0.00226
900 MHz	0.00079
1400 MHz	0.00167
1800 MHz	0.01677
1900 MHz	0.00022
2100 MHz	0.00716
2300 MHz	0.00041
2600 MHz TDD	0.00037
2600 MHz FDD	0.00039
3.4 GHz	0.00236
3.8 GHz	0.00553
others	0.08624
<b>total</b>	0.12540

**Location 3**

<b>Measurement Time:</b>	11:26
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
700 MHz	0.00240
800 MHz	0.00873
900 MHz	0.00087
1400 MHz	0.00310
1800 MHz	0.00334
1900 MHz	0.00023
2100 MHz	0.00279
2300 MHz	0.00043
2600 MHz TDD	0.00038
2600 MHz FDD	0.00294
3.4 GHz	0.00254
3.8 GHz	0.00576
others	0.08959
<b>total</b>	0.12310

**Location 4**

<b>Measurement Time:</b>	11:39
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
700 MHz	0.00141
800 MHz	0.01021
900 MHz	0.00128
1400 MHz	0.00315
1800 MHz	0.00477
1900 MHz	0.00024
2100 MHz	0.00429
2300 MHz	0.00045
2600 MHz TDD	0.00040
2600 MHz FDD	0.00553
3.4 GHz	0.00295
3.8 GHz	0.00607
others	0.09362
<b>total</b>	0.13437

## Location 5

<b>Measurement Time:</b>	11:50
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
700 MHz	0.00134
800 MHz	0.00707
900 MHz	0.00241
1400 MHz	0.00415
1800 MHz	0.00170
1900 MHz	0.00024
2100 MHz	0.00300
2300 MHz	0.00046
2600 MHz TDD	0.00040
2600 MHz FDD	0.00033
3.4 GHz	0.00292
3.8 GHz	0.00621
others	0.09544
<b>total</b>	<b>0.12566</b>

## Location 6

<b>Measurement Time:</b>	12:04
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
700 MHz	0.00158
800 MHz	0.00406
900 MHz	0.00072
1400 MHz	0.00725
1800 MHz	0.00312
1900 MHz	0.00024
2100 MHz	0.00620
2300 MHz	0.00047
2600 MHz TDD	0.00041
2600 MHz FDD	0.00036
3.4 GHz	0.00265
3.8 GHz	0.00630
others	0.09708
<b>total</b>	<b>0.13044</b>

*Disclaimer: The results detailed in this report apply only to the tests made at the reported time, using the test equipment detailed. They do not indicate that on another date an identical set of results would be achieved, due to changes in local environmental conditions or other factors which may or may not have an effect on the measurement results obtained at that future time.*