

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)¹, 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 30 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 floor² 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%.

Date of Survey:	07/08/2024	Time Survey completed:	11:57
Survey address:	London UB10		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY58311497	23/05/2024
Probe	Agos Aria-6000 Antenna	ARIA-6000-1023	22/01/2021
Cabling	1.7m cable	1188	22/01/2021

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

² 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.

Broadcast bands covered by this report

Frequency Band	Frequency Range	Technology*
	87.5-108 MHz	FM Radio
	174-230 MHz	DAB
	470-694 MHz	Digital TV

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**		

* 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 between 420 MHz and 6 GHz.

Survey locations

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



Location 1

Measurement time:	11:17
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00627
174-230 MHz	0.00716
470-694 MHz	0.00582
700 MHz	0.00326
800 MHz	0.00070
900 MHz	0.00042
1400 MHz	0.00226
1800 MHz	0.00461
1900 MHz	0.00013
2100 MHz	0.00169
2300 MHz	0.00030
2600 MHz TDD	0.00024
2600 MHz FDD	0.00012
3.4 GHz	0.00323
3.8 GHz	0.00319
Others	0.09458
Total	0.13400

Location 2

Measurement time:	11:26
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00680
174-230 MHz	0.00769
470-694 MHz	0.00620
700 MHz	0.00327
800 MHz	0.00185
900 MHz	0.00045
1400 MHz	0.00313
1800 MHz	0.00946
1900 MHz	0.00014
2100 MHz	0.00645
2300 MHz	0.00032
2600 MHz TDD	0.00026
2600 MHz FDD	0.00013
3.4 GHz	0.00245
3.8 GHz	0.00346
Others	0.10186
Total	0.15392

Location 3

Measurement time:	11:34
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00715
174-230 MHz	0.00817
470-694 MHz	0.00649
700 MHz	0.00312
800 MHz	0.00110
900 MHz	0.00045
1400 MHz	0.00223
1800 MHz	0.00598
1900 MHz	0.00015
2100 MHz	0.00690
2300 MHz	0.00034
2600 MHz TDD	0.00027
2600 MHz FDD	0.00014
3.4 GHz	0.00239
3.8 GHz	0.00371
Others	0.10831
Total	0.15690

Location 4

Measurement time:	11:42
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00732
174-230 MHz	0.00849
470-694 MHz	0.00667
700 MHz	0.00385
800 MHz	0.00134
900 MHz	0.00048
1400 MHz	0.00162
1800 MHz	0.00609
1900 MHz	0.00015
2100 MHz	0.00293
2300 MHz	0.00036
2600 MHz TDD	0.00029
2600 MHz FDD	0.00015
3.4 GHz	0.00327
3.8 GHz	0.00389
Others	0.11250
Total	0.15939

Location 5

Measurement time:	11:51
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00774
174-230 MHz	0.00882
470-694 MHz	0.00690
700 MHz	0.00533
800 MHz	0.00150
900 MHz	0.00049
1400 MHz	0.00316
1800 MHz	0.00367
1900 MHz	0.00016
2100 MHz	0.00326
2300 MHz	0.00037
2600 MHz TDD	0.00030
2600 MHz FDD	0.00015
3.4 GHz	0.00293
3.8 GHz	0.00406
Others	0.11648
Total	0.16531

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.