

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:	12:49
Survey address:	London UB4		

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:	12:07
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00754
174-230 MHz	0.00846
470-694 MHz	0.00674
700 MHz	0.00495
800 MHz	0.00990
900 MHz	0.00106
1400 MHz	0.00579
1800 MHz	0.00577
1900 MHz	0.00015
2100 MHz	0.00394
2300 MHz	0.00042
2600 MHz TDD	0.00029
2600 MHz FDD	0.00015
3.4 GHz	0.00322
3.8 GHz	0.00422
Others	0.11286
Total	0.17548

Location 2

Measurement time:	12:16
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00767
174-230 MHz	0.00875
470-694 MHz	0.00691
700 MHz	0.00316
800 MHz	0.00486
900 MHz	0.00067
1400 MHz	0.00881
1800 MHz	0.00931
1900 MHz	0.00016
2100 MHz	0.00446
2300 MHz	0.00039
2600 MHz TDD	0.00030
2600 MHz FDD	0.00016
3.4 GHz	0.00988
3.8 GHz	0.00432
Others	0.11680
Total	0.18661

Location 3

Measurement time:	12:25
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00801
174-230 MHz	0.00906
470-694 MHz	0.00719
700 MHz	0.00272
800 MHz	0.09365
900 MHz	0.01381
1400 MHz	0.01123
1800 MHz	0.00938
1900 MHz	0.00017
2100 MHz	0.00674
2300 MHz	0.00064
2600 MHz TDD	0.00031
2600 MHz FDD	0.00016
3.4 GHz	0.00260
3.8 GHz	0.00449
Others	0.12143
Total	0.29157

Location 4

Measurement time:	12:33
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00802
174-230 MHz	0.00917
470-694 MHz	0.00719
700 MHz	0.00299
800 MHz	0.03069
900 MHz	0.00825
1400 MHz	0.01309
1800 MHz	0.01527
1900 MHz	0.00017
2100 MHz	0.00904
2300 MHz	0.00059
2600 MHz TDD	0.00031
2600 MHz FDD	0.00019
3.4 GHz	0.00369
3.8 GHz	0.00449
Others	0.12342
Total	0.23655

Location 5

Measurement time:	12:43
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00824
174-230 MHz	0.00935
470-694 MHz	0.00734
700 MHz	0.00264
800 MHz	0.00519
900 MHz	0.00158
1400 MHz	0.00429
1800 MHz	0.00613
1900 MHz	0.00017
2100 MHz	0.00424
2300 MHz	0.00044
2600 MHz TDD	0.00032
2600 MHz FDD	0.00017
3.4 GHz	0.00401
3.8 GHz	0.00478
Others	0.12538
Total	0.18427

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.