

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:	30/07/2024	Time Survey completed:	15:47
Survey address:	London UB6		

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:	15:12
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01038
174-230 MHz	0.01184
470-694 MHz	0.00901
700 MHz	0.05168
800 MHz	0.03867
900 MHz	0.00286
1400 MHz	0.02690
1800 MHz	0.00885
1900 MHz	0.00022
2100 MHz	0.00733
2300 MHz	0.00050
2600 MHz TDD	0.00042
2600 MHz FDD	0.00061
3.4 GHz	0.00428
3.8 GHz	0.00583
Others	0.16180
Total	0.34118

Location 2

Measurement time:	15:19
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01039
174-230 MHz	0.01192
470-694 MHz	0.00905
700 MHz	0.03428
800 MHz	0.01811
900 MHz	0.01164
1400 MHz	0.01665
1800 MHz	0.02215
1900 MHz	0.00022
2100 MHz	0.00763
2300 MHz	0.00051
2600 MHz TDD	0.00042
2600 MHz FDD	0.00061
3.4 GHz	0.01014
3.8 GHz	0.00593
Others	0.16258
Total	0.32225

Location 3

Measurement time:	15:26
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01050
174-230 MHz	0.01191
470-694 MHz	0.00908
700 MHz	0.02921
800 MHz	0.02201
900 MHz	0.00952
1400 MHz	0.04008
1800 MHz	0.01124
1900 MHz	0.00022
2100 MHz	0.02712
2300 MHz	0.00051
2600 MHz TDD	0.00044
2600 MHz FDD	0.00077
3.4 GHz	0.01868
3.8 GHz	0.00601
Others	0.16238
Total	0.35967

Location 4

Measurement time:	15:33
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01040
174-230 MHz	0.01187
470-694 MHz	0.00907
700 MHz	0.07973
800 MHz	0.10322
900 MHz	0.07331
1400 MHz	0.01814
1800 MHz	0.00510
1900 MHz	0.00022
2100 MHz	0.00334
2300 MHz	0.00051
2600 MHz TDD	0.00043
2600 MHz FDD	0.00065
3.4 GHz	0.00381
3.8 GHz	0.00588
Others	0.16298
Total	0.48864

Location 5

Measurement time:	15:41
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01037
174-230 MHz	0.01184
470-694 MHz	0.00895
700 MHz	0.02906
800 MHz	0.01660
900 MHz	0.00525
1400 MHz	0.02762
1800 MHz	0.00584
1900 MHz	0.00022
2100 MHz	0.00730
2300 MHz	0.00050
2600 MHz TDD	0.00042
2600 MHz FDD	0.00078
3.4 GHz	0.00424
3.8 GHz	0.00578
Others	0.15980
Total	0.29457

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.