

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:	14/11/2024	Time Survey completed:	14:28
Survey address:	London N13		

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	1407	23/11/2023

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:	13:52
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00899
174-230 MHz	0.01055
470-694 MHz	0.00799
700 MHz	0.00469
800 MHz	0.10469
900 MHz	0.05001
1400 MHz	0.00241
1800 MHz	0.02330
1900 MHz	0.00019
2100 MHz	0.01463
2300 MHz	0.00251
2600 MHz TDD	0.00047
2600 MHz FDD	0.00454
3.4 GHz	0.00202
3.8 GHz	0.00494
Others	0.14063
Total	0.38258

Location 2

Measurement time:	13:59
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00861
174-230 MHz	0.00999
470-694 MHz	0.00770
700 MHz	0.00281
800 MHz	0.36686
900 MHz	0.13981
1400 MHz	0.00467
1800 MHz	0.00474
1900 MHz	0.00019
2100 MHz	0.00998
2300 MHz	0.00181
2600 MHz TDD	0.00038
2600 MHz FDD	0.00165
3.4 GHz	0.00192
3.8 GHz	0.00471
Others	0.14048
Total	0.70632

Location 3

Measurement time:	14:07
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00834
174-230 MHz	0.00987
470-694 MHz	0.00742
700 MHz	0.00354
800 MHz	0.10618
900 MHz	0.05816
1400 MHz	0.00314
1800 MHz	0.01519
1900 MHz	0.00018
2100 MHz	0.00804
2300 MHz	0.00108
2600 MHz TDD	0.00034
2600 MHz FDD	0.00069
3.4 GHz	0.00184
3.8 GHz	0.00453
Others	0.12874
Total	0.35727

Location 4

Measurement time:	14:14
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00804
174-230 MHz	0.00917
470-694 MHz	0.00725
700 MHz	0.00321
800 MHz	0.04363
900 MHz	0.06446
1400 MHz	0.00754
1800 MHz	0.01086
1900 MHz	0.00017
2100 MHz	0.00843
2300 MHz	0.00296
2600 MHz TDD	0.00036
2600 MHz FDD	0.00161
3.4 GHz	0.00178
3.8 GHz	0.00438
Others	0.12647
Total	0.30036

Location 5

Measurement time:	14:22
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00799
174-230 MHz	0.00903
470-694 MHz	0.00709
700 MHz	0.00469
800 MHz	0.09460
900 MHz	0.04327
1400 MHz	0.00307
1800 MHz	0.01302
1900 MHz	0.00017
2100 MHz	0.01398
2300 MHz	0.00214
2600 MHz TDD	0.00041
2600 MHz FDD	0.00322
3.4 GHz	0.00173
3.8 GHz	0.00421
Others	0.12235
Total	0.33097

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.