

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:	13/03/2025	Time Survey completed:	13:38
Survey address:	Mickleover DE3		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072606	04/06/2024
Probe	Agos Aria-6000 Antenna	ARIA-6000-1158	25/09/2023
Cabling	1.7m cable	1458	25/09/2023

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:	12:40
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01435
174-230 MHz	0.01579
470-694 MHz	0.01200
700 MHz	0.00397
800 MHz	0.00365
900 MHz	0.00093
1400 MHz	0.00177
1800 MHz	0.00212
1900 MHz	0.00028
2100 MHz	0.00138
2300 MHz	0.00058
2600 MHz TDD	0.00051
2600 MHz FDD	0.00022
3.4 GHz	0.00271
3.8 GHz	0.00565
Others	0.19943
Total	0.26534

Location 2

Measurement time:	12:54
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01404
174-230 MHz	0.01567
470-694 MHz	0.01180
700 MHz	0.00207
800 MHz	0.00196
900 MHz	0.00091
1400 MHz	0.00107
1800 MHz	0.00158
1900 MHz	0.00028
2100 MHz	0.00095
2300 MHz	0.00057
2600 MHz TDD	0.00049
2600 MHz FDD	0.00021
3.4 GHz	0.00237
3.8 GHz	0.00547
Others	0.19358
Total	0.25301

Location 3

Measurement time:	13:07
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01355
174-230 MHz	0.01506
470-694 MHz	0.01144
700 MHz	0.00172
800 MHz	0.00121
900 MHz	0.00096
1400 MHz	0.00066
1800 MHz	0.00092
1900 MHz	0.00027
2100 MHz	0.00084
2300 MHz	0.00055
2600 MHz TDD	0.00047
2600 MHz FDD	0.00020
3.4 GHz	0.00227
3.8 GHz	0.00526
Others	0.18764
Total	0.24302

Location 4

Measurement time:	13:20
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01354
174-230 MHz	0.01478
470-694 MHz	0.01121
700 MHz	0.00175
800 MHz	0.00120
900 MHz	0.00096
1400 MHz	0.00082
1800 MHz	0.00098
1900 MHz	0.00026
2100 MHz	0.00087
2300 MHz	0.00057
2600 MHz TDD	0.00047
2600 MHz FDD	0.00020
3.4 GHz	0.00237
3.8 GHz	0.00516
Others	0.18516
Total	0.24030

Location 5

Measurement time:	13:32
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01333
174-230 MHz	0.01486
470-694 MHz	0.01122
700 MHz	0.00310
800 MHz	0.00407
900 MHz	0.00088
1400 MHz	0.00283
1800 MHz	0.00355
1900 MHz	0.00027
2100 MHz	0.00118
2300 MHz	0.00054
2600 MHz TDD	0.00047
2600 MHz FDD	0.00020
3.4 GHz	0.00241
3.8 GHz	0.00516
Others	0.18481
Total	0.24887

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.