

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:	21/03/2025	Time Survey completed:	12:27
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 30 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:	11:21
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01204
174-230 MHz	0.01322
470-694 MHz	0.01009
700 MHz	0.00140
800 MHz	0.00244
900 MHz	0.00073
1400 MHz	0.00049
1800 MHz	0.00134
1900 MHz	0.00023
2100 MHz	0.00070
2300 MHz	0.00048
2600 MHz TDD	0.00041
2600 MHz FDD	0.00017
3.4 GHz	0.00188
3.8 GHz	0.00445
Others	0.16288
Total	0.21295

Location 2

Measurement time:	11:34
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01260
174-230 MHz	0.01385
470-694 MHz	0.01058
700 MHz	0.00245
800 MHz	0.00256
900 MHz	0.00685
1400 MHz	0.00054
1800 MHz	0.01296
1900 MHz	0.00024
2100 MHz	0.00297
2300 MHz	0.00126
2600 MHz TDD	0.00043
2600 MHz FDD	0.00018
3.4 GHz	0.00204
3.8 GHz	0.00478
Others	0.17173
Total	0.24602

Location 3

Measurement time:	11:50
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01307
174-230 MHz	0.01459
470-694 MHz	0.01110
700 MHz	0.00254
800 MHz	0.00593
900 MHz	0.01385
1400 MHz	0.00056
1800 MHz	0.00173
1900 MHz	0.00025
2100 MHz	0.00220
2300 MHz	0.00100
2600 MHz TDD	0.00046
2600 MHz FDD	0.00019
3.4 GHz	0.00215
3.8 GHz	0.00528
Others	0.18050
Total	0.25542

Location 4

Measurement time:	12:04
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01365
174-230 MHz	0.01534
470-694 MHz	0.01153
700 MHz	0.00184
800 MHz	0.02006
900 MHz	0.00083
1400 MHz	0.00057
1800 MHz	0.00172
1900 MHz	0.00027
2100 MHz	0.00113
2300 MHz	0.00055
2600 MHz TDD	0.00048
2600 MHz FDD	0.00020
3.4 GHz	0.00226
3.8 GHz	0.00535
Others	0.18950
Total	0.26529

Location 5

Measurement time:	12:21
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01407
174-230 MHz	0.01572
470-694 MHz	0.01183
700 MHz	0.00168
800 MHz	0.00396
900 MHz	0.00085
1400 MHz	0.00059
1800 MHz	0.00122
1900 MHz	0.00028
2100 MHz	0.00084
2300 MHz	0.00057
2600 MHz TDD	0.00050
2600 MHz FDD	0.00021
3.4 GHz	0.00237
3.8 GHz	0.00555
Others	0.19609
Total	0.25633

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.