

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:	12/05/2025	Time Survey completed:	16:00
Survey address:	Manchester M44		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072592	06/03/2025
Probe	Agos Aria-6000 Antenna	ARIA-6000-1156	25/09/2023
Cabling	1.7m cable	1459	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 six locations and are presented in the following pages of this report.



Location 1

Measurement time:	15:09
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01257
174-230 MHz	0.01406
470-694 MHz	0.01073
700 MHz	0.00349
800 MHz	0.02171
900 MHz	0.00385
1400 MHz	0.00112
1800 MHz	0.00228
1900 MHz	0.00027
2100 MHz	0.00143
2300 MHz	0.00054
2600 MHz TDD	0.00049
2600 MHz FDD	0.00046
3.4 GHz	0.00336
3.8 GHz	0.00696
Others	0.19599
Total	0.27932

Location 2

Measurement time:	15:19
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01272
174-230 MHz	0.01449
470-694 MHz	0.01101
700 MHz	0.01765
800 MHz	0.01475
900 MHz	0.00382
1400 MHz	0.00823
1800 MHz	0.00890
1900 MHz	0.00028
2100 MHz	0.00457
2300 MHz	0.00056
2600 MHz TDD	0.00051
2600 MHz FDD	0.00030
3.4 GHz	0.00379
3.8 GHz	0.00724
Others	0.20251
Total	0.31132

Location 3

Measurement time:	15:29
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01313
174-230 MHz	0.01484
470-694 MHz	0.01120
700 MHz	0.00267
800 MHz	0.01030
900 MHz	0.00542
1400 MHz	0.00309
1800 MHz	0.00485
1900 MHz	0.00028
2100 MHz	0.00642
2300 MHz	0.00057
2600 MHz TDD	0.00052
2600 MHz FDD	0.00028
3.4 GHz	0.00381
3.8 GHz	0.00741
Others	0.20563
Total	0.29041

Location 4

Measurement time:	15:37
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01315
174-230 MHz	0.01466
470-694 MHz	0.01119
700 MHz	0.00394
800 MHz	0.07688
900 MHz	0.02742
1400 MHz	0.00365
1800 MHz	0.00180
1900 MHz	0.00028
2100 MHz	0.00152
2300 MHz	0.00057
2600 MHz TDD	0.00052
2600 MHz FDD	0.00028
3.4 GHz	0.00391
3.8 GHz	0.00740
Others	0.20618
Total	0.37335

Location 5

Measurement time:	15:46
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01345
174-230 MHz	0.01466
470-694 MHz	0.01119
700 MHz	0.01451
800 MHz	0.01793
900 MHz	0.01121
1400 MHz	0.00518
1800 MHz	0.00579
1900 MHz	0.00028
2100 MHz	0.00544
2300 MHz	0.00057
2600 MHz TDD	0.00052
2600 MHz FDD	0.00028
3.4 GHz	0.00588
3.8 GHz	0.00744
Others	0.20577
Total	0.32010

Location 6

Measurement time:	15:54
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01337
174-230 MHz	0.01480
470-694 MHz	0.01128
700 MHz	0.00381
800 MHz	0.00954
900 MHz	0.00390
1400 MHz	0.00160
1800 MHz	0.00200
1900 MHz	0.00028
2100 MHz	0.00170
2300 MHz	0.00058
2600 MHz TDD	0.00053
2600 MHz FDD	0.00028
3.4 GHz	0.00380
3.8 GHz	0.00751
Others	0.20774
Total	0.28271

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.