

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:	09/04/2025	Time Survey completed:	13:07
Survey address:	Manchester M7		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072599	11/02/2025
Probe	Agos Aria-6000 Antenna	ARIA-6000	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:	12:21
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01344
174-230 MHz	0.01416
470-694 MHz	0.01074
700 MHz	0.14575
800 MHz	0.00638
900 MHz	0.00160
1400 MHz	0.00740
1800 MHz	0.00424
1900 MHz	0.00026
2100 MHz	0.00239
2300 MHz	0.00057
2600 MHz TDD	0.00046
2600 MHz FDD	0.00034
3.4 GHz	0.00394
3.8 GHz	0.00686
Others	0.19427
Total	0.41280

Location 2

Measurement time:	12:30
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01280
174-230 MHz	0.01406
470-694 MHz	0.01075
700 MHz	0.01257
800 MHz	0.00234
900 MHz	0.00098
1400 MHz	0.00492
1800 MHz	0.00144
1900 MHz	0.00026
2100 MHz	0.00150
2300 MHz	0.00055
2600 MHz TDD	0.00047
2600 MHz FDD	0.00027
3.4 GHz	0.00412
3.8 GHz	0.00684
Others	0.19682
Total	0.27067

Location 3

Measurement time:	12:37
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01264
174-230 MHz	0.01418
470-694 MHz	0.01075
700 MHz	0.00419
800 MHz	0.00197
900 MHz	0.00088
1400 MHz	0.00544
1800 MHz	0.01455
1900 MHz	0.00026
2100 MHz	0.00154
2300 MHz	0.00053
2600 MHz TDD	0.00047
2600 MHz FDD	0.00034
3.4 GHz	0.00496
3.8 GHz	0.00686
Others	0.19536
Total	0.27492

Location 4

Measurement time:	12:45
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01357
174-230 MHz	0.01436
470-694 MHz	0.01094
700 MHz	0.01973
800 MHz	0.00698
900 MHz	0.00109
1400 MHz	0.00771
1800 MHz	0.00197
1900 MHz	0.00026
2100 MHz	0.00360
2300 MHz	0.00057
2600 MHz TDD	0.00048
2600 MHz FDD	0.00029
3.4 GHz	0.00561
3.8 GHz	0.00702
Others	0.19860
Total	0.29277

Location 5

Measurement time:	12:53
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01353
174-230 MHz	0.01437
470-694 MHz	0.01089
700 MHz	0.00903
800 MHz	0.00235
900 MHz	0.00132
1400 MHz	0.00145
1800 MHz	0.00125
1900 MHz	0.00026
2100 MHz	0.00118
2300 MHz	0.00057
2600 MHz TDD	0.00047
2600 MHz FDD	0.00030
3.4 GHz	0.00358
3.8 GHz	0.00699
Others	0.19804
Total	0.26559

Location 6

Measurement time:	13:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01324
174-230 MHz	0.01438
470-694 MHz	0.01095
700 MHz	0.03996
800 MHz	0.00929
900 MHz	0.00146
1400 MHz	0.00735
1800 MHz	0.00206
1900 MHz	0.00026
2100 MHz	0.00209
2300 MHz	0.00059
2600 MHz TDD	0.00048
2600 MHz FDD	0.00037
3.4 GHz	0.00408
3.8 GHz	0.00702
Others	0.19846
Total	0.31202

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.