

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:	15:27
Survey address:	Manchester M8		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072599	11/02/2025
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:	14:36
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01489
174-230 MHz	0.01408
470-694 MHz	0.01073
700 MHz	0.00400
800 MHz	0.00206
900 MHz	0.00097
1400 MHz	0.01469
1800 MHz	0.00235
1900 MHz	0.00025
2100 MHz	0.00518
2300 MHz	0.00054
2600 MHz TDD	0.00045
2600 MHz FDD	0.00027
3.4 GHz	0.00391
3.8 GHz	0.00682
Others	0.19496
Total	0.27616

Location 2

Measurement time:	14:43
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01403
174-230 MHz	0.01453
470-694 MHz	0.01100
700 MHz	0.01879
800 MHz	0.01518
900 MHz	0.00091
1400 MHz	0.00315
1800 MHz	0.00351
1900 MHz	0.00026
2100 MHz	0.00495
2300 MHz	0.00054
2600 MHz TDD	0.00047
2600 MHz FDD	0.00028
3.4 GHz	0.00368
3.8 GHz	0.00704
Others	0.20021
Total	0.29855

Location 3

Measurement time:	14:52
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01353
174-230 MHz	0.01457
470-694 MHz	0.01102
700 MHz	0.00793
800 MHz	0.00418
900 MHz	0.00088
1400 MHz	0.01623
1800 MHz	0.00133
1900 MHz	0.00026
2100 MHz	0.00131
2300 MHz	0.00054
2600 MHz TDD	0.00047
2600 MHz FDD	0.00029
3.4 GHz	0.00501
3.8 GHz	0.00709
Others	0.20034
Total	0.28498

Location 4

Measurement time:	15:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01434
174-230 MHz	0.01455
470-694 MHz	0.01101
700 MHz	0.00601
800 MHz	0.00276
900 MHz	0.00105
1400 MHz	0.06586
1800 MHz	0.00276
1900 MHz	0.00026
2100 MHz	0.00338
2300 MHz	0.00058
2600 MHz TDD	0.00047
2600 MHz FDD	0.00031
3.4 GHz	0.00711
3.8 GHz	0.00710
Others	0.19977
Total	0.33731

Location 5

Measurement time:	15:10
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01302
174-230 MHz	0.01446
470-694 MHz	0.01098
700 MHz	0.00995
800 MHz	0.00414
900 MHz	0.00083
1400 MHz	0.02949
1800 MHz	0.00562
1900 MHz	0.00026
2100 MHz	0.00862
2300 MHz	0.00054
2600 MHz TDD	0.00047
2600 MHz FDD	0.00029
3.4 GHz	0.00491
3.8 GHz	0.00700
Others	0.19866
Total	0.30926

Location 6

Measurement time:	15:21
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01475
174-230 MHz	0.01447
470-694 MHz	0.01081
700 MHz	0.00629
800 MHz	0.00323
900 MHz	0.00094
1400 MHz	0.00485
1800 MHz	0.00448
1900 MHz	0.00026
2100 MHz	0.00309
2300 MHz	0.00055
2600 MHz TDD	0.00047
2600 MHz FDD	0.00028
3.4 GHz	0.00390
3.8 GHz	0.00687
Others	0.19652
Total	

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.