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 floor[2] 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:	09/05/2025	**Time Survey completed:**	12:47
Survey address:	Manchester M20		

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:	11:59
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00904
174-230 MHz	0.01008
470-694 MHz	0.00796
700 MHz	0.02282
800 MHz	0.00478
900 MHz	0.00056
1400 MHz	0.02217
1800 MHz	0.00163
1900 MHz	0.00018
2100 MHz	0.00132
2300 MHz	0.00038
2600 MHz TDD	0.00034
2600 MHz FDD	0.00019
3.4 GHz	0.00244
3.8 GHz	0.00471
Others	0.13608
Total	**0.22466**

Location 2

Measurement time:	12:08
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00977
174-230 MHz	0.01081
470-694 MHz	0.00847
700 MHz	0.01610
800 MHz	0.00374
900 MHz	0.00060
1400 MHz	0.00390
1800 MHz	0.00089
1900 MHz	0.00020
2100 MHz	0.00083
2300 MHz	0.00041
2600 MHz TDD	0.00036
2600 MHz FDD	0.00020
3.4 GHz	0.00285
3.8 GHz	0.00520
Others	0.14758
Total	**0.21189**

Location 3

Measurement time:	12:16
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00999
174-230 MHz	0.01120
470-694 MHz	0.00878
700 MHz	0.01290
800 MHz	0.00262
900 MHz	0.00062
1400 MHz	0.00267
1800 MHz	0.00101
1900 MHz	0.00020
2100 MHz	0.00128
2300 MHz	0.00043
2600 MHz TDD	0.00038
2600 MHz FDD	0.00021
3.4 GHz	0.00286
3.8 GHz	0.00545
Others	0.15283
Total	**0.21342**

Location 4

Measurement time:	12:23
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01050
174-230 MHz	0.01159
470-694 MHz	0.00908
700 MHz	0.00417
800 MHz	0.00132
900 MHz	0.00064
1400 MHz	0.01646
1800 MHz	0.01389
1900 MHz	0.00021
2100 MHz	0.00227
2300 MHz	0.00044
2600 MHz TDD	0.00040
2600 MHz FDD	0.00022
3.4 GHz	0.00281
3.8 GHz	0.00573
Others	0.16006
Total	**0.23980**

Location 5

Measurement time:	12:32
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01059
174-230 MHz	0.01198
470-694 MHz	0.00928
700 MHz	0.00490
800 MHz	0.00203
900 MHz	0.00067
1400 MHz	0.00449
1800 MHz	0.00109
1900 MHz	0.00022
2100 MHz	0.00070
2300 MHz	0.00046
2600 MHz TDD	0.00041
2600 MHz FDD	0.00023
3.4 GHz	0.00306
3.8 GHz	0.00593
Others	0.16518
Total	**0.22122**

Location 6

Measurement time:	12:41
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01090
174-230 MHz	0.01215
470-694 MHz	0.00941
700 MHz	0.02163
800 MHz	0.00742
900 MHz	0.00066
1400 MHz	0.01730
1800 MHz	0.00193
1900 MHz	0.00022
2100 MHz	0.00128
2300 MHz	0.00047
2600 MHz TDD	0.00042
2600 MHz FDD	0.00024
3.4 GHz	0.00308
3.8 GHz	0.00611
Others	0.16934
Total	**0.26258**

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.