

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:	03/04/2025	Time Survey completed:	14:31
Survey address:	Littleover DE23		

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:	13:13
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.02499
174-230 MHz	0.01636
470-694 MHz	0.01026
700 MHz	0.00127
800 MHz	0.00094
900 MHz	0.00072
1400 MHz	0.00089
1800 MHz	0.00264
1900 MHz	0.00027
2100 MHz	0.00152
2300 MHz	0.00048
2600 MHz TDD	0.00044
2600 MHz FDD	0.00017
3.4 GHz	0.00241
3.8 GHz	0.00460
Others	0.23894
Total	0.30689

Location 2

Measurement time:	13:33
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.02802
174-230 MHz	0.01830
470-694 MHz	0.01152
700 MHz	0.00139
800 MHz	0.00078
900 MHz	0.00067
1400 MHz	0.00058
1800 MHz	0.00094
1900 MHz	0.00031
2100 MHz	0.00076
2300 MHz	0.00052
2600 MHz TDD	0.00051
2600 MHz FDD	0.00020
3.4 GHz	0.00230
3.8 GHz	0.00544
Others	0.27399
Total	0.34624

Location 3

Measurement time:	13:55
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.03124
174-230 MHz	0.02017
470-694 MHz	0.01242
700 MHz	0.00400
800 MHz	0.03541
900 MHz	0.12003
1400 MHz	0.00502
1800 MHz	0.01068
1900 MHz	0.00034
2100 MHz	0.02376
2300 MHz	0.00058
2600 MHz TDD	0.00055
2600 MHz FDD	0.00023
3.4 GHz	0.00323
3.8 GHz	0.00612
Others	0.30610
Total	0.57986

Location 4

Measurement time:	14:10
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.03074
174-230 MHz	0.01999
470-694 MHz	0.01251
700 MHz	0.00178
800 MHz	0.00133
900 MHz	0.00078
1400 MHz	0.00097
1800 MHz	0.00135
1900 MHz	0.00033
2100 MHz	0.00093
2300 MHz	0.00058
2600 MHz TDD	0.00056
2600 MHz FDD	0.00023
3.4 GHz	0.00272
3.8 GHz	0.00612
Others	0.30286
Total	0.38378

Location 5

Measurement time:	14:25
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.03117
174-230 MHz	0.02080
470-694 MHz	0.01272
700 MHz	0.00162
800 MHz	0.00116
900 MHz	0.00096
1400 MHz	0.00108
1800 MHz	0.00271
1900 MHz	0.00034
2100 MHz	0.00171
2300 MHz	0.00063
2600 MHz TDD	0.00057
2600 MHz FDD	0.00023
3.4 GHz	0.00316
3.8 GHz	0.00632
Others	0.31268
Total	0.39788

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.