

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:	30/04/2025	Time Survey completed:	13:30
Survey address:	Whittlesey PE7		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072589	11/12/2024
Probe	Agos Aria-6000 Antenna	6000-1157	25/09/2023
Cabling	1.7m cable	1379	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:	12:13
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01562
174-230 MHz	0.01742
470-694 MHz	0.01369
700 MHz	0.02820
800 MHz	0.05790
900 MHz	0.01317
1400 MHz	0.00876
1800 MHz	0.01177
1900 MHz	0.00035
2100 MHz	0.00269
2300 MHz	0.00070
2600 MHz TDD	0.00060
2600 MHz FDD	0.00025
3.4 GHz	0.00339
3.8 GHz	0.00662
Others	0.23345
Total	0.41460

Location 2

Measurement time:	12:29
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01766
174-230 MHz	0.01962
470-694 MHz	0.01520
700 MHz	0.04020
800 MHz	0.02354
900 MHz	0.01499
1400 MHz	0.00290
1800 MHz	0.00518
1900 MHz	0.00038
2100 MHz	0.00166
2300 MHz	0.00079
2600 MHz TDD	0.00068
2600 MHz FDD	0.00029
3.4 GHz	0.00335
3.8 GHz	0.00760
Others	0.25203
Total	0.40606

Location 3

Measurement time:	12:51
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01862
174-230 MHz	0.02074
470-694 MHz	0.01590
700 MHz	0.00275
800 MHz	0.00810
900 MHz	0.00521
1400 MHz	0.00176
1800 MHz	0.00259
1900 MHz	0.00041
2100 MHz	0.00207
2300 MHz	0.00083
2600 MHz TDD	0.00072
2600 MHz FDD	0.00031
3.4 GHz	0.00361
3.8 GHz	0.00814
Others	0.26613
Total	0.35788

Location 4

Measurement time:	13:02
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01895
174-230 MHz	0.02110
470-694 MHz	0.01627
700 MHz	0.00345
800 MHz	0.00476
900 MHz	0.00744
1400 MHz	0.00098
1800 MHz	0.00133
1900 MHz	0.00041
2100 MHz	0.00122
2300 MHz	0.00086
2600 MHz TDD	0.00073
2600 MHz FDD	0.00032
3.4 GHz	0.00377
3.8 GHz	0.00840
Others	0.27644
Total	0.36644

Location 5

Measurement time:	13:24
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.02035
174-230 MHz	0.02279
470-694 MHz	0.01723
700 MHz	0.00852
800 MHz	0.00482
900 MHz	0.00352
1400 MHz	0.00101
1800 MHz	0.00210
1900 MHz	0.00045
2100 MHz	0.00141
2300 MHz	0.00091
2600 MHz TDD	0.00078
2600 MHz FDD	0.00034
3.4 GHz	0.00426
3.8 GHz	0.00903
Others	0.31070
Total	0.40824

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.