

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:	17/04/2025	Time Survey completed:	14:37
Survey address:	Chaddeston DE21		

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:	13:34
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.02481
174-230 MHz	0.01607
470-694 MHz	0.01025
700 MHz	0.00125
800 MHz	0.00476
900 MHz	0.01261
1400 MHz	0.00051
1800 MHz	0.00112
1900 MHz	0.00026
2100 MHz	0.00128
2300 MHz	0.00046
2600 MHz TDD	0.00044
2600 MHz FDD	0.00017
3.4 GHz	0.00193
3.8 GHz	0.00460
Others	0.24067
Total	0.32120

Location 2

Measurement time:	13:58
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.02941
174-230 MHz	0.01925
470-694 MHz	0.01210
700 MHz	0.00155
800 MHz	0.00088
900 MHz	0.00083
1400 MHz	0.00063
1800 MHz	0.00107
1900 MHz	0.00032
2100 MHz	0.00083
2300 MHz	0.00055
2600 MHz TDD	0.00053
2600 MHz FDD	0.00022
3.4 GHz	0.00246
3.8 GHz	0.00581
Others	0.29094
Total	0.36738

Location 3

Measurement time:	14:10
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.03025
174-230 MHz	0.02008
470-694 MHz	0.01254
700 MHz	0.00162
800 MHz	0.00089
900 MHz	0.00082
1400 MHz	0.00065
1800 MHz	0.00117
1900 MHz	0.00034
2100 MHz	0.00090
2300 MHz	0.00058
2600 MHz TDD	0.00056
2600 MHz FDD	0.00023
3.4 GHz	0.00263
3.8 GHz	0.00609
Others	0.30253
Total	0.38186

Location 4

Measurement time:	14:22
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.03134
174-230 MHz	0.02044
470-694 MHz	0.01281
700 MHz	0.00164
800 MHz	0.00102
900 MHz	0.00079
1400 MHz	0.00065
1800 MHz	0.00108
1900 MHz	0.00035
2100 MHz	0.00087
2300 MHz	0.00059
2600 MHz TDD	0.00057
2600 MHz FDD	0.00024
3.4 GHz	0.00266
3.8 GHz	0.00626
Others	0.30907
Total	0.39039

Location 5

Measurement time:	14:31
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.03181
174-230 MHz	0.02088
470-694 MHz	0.01292
700 MHz	0.00159
800 MHz	0.00482
900 MHz	0.00651
1400 MHz	0.00066
1800 MHz	0.00161
1900 MHz	0.00035
2100 MHz	0.00148
2300 MHz	0.00059
2600 MHz TDD	0.00058
2600 MHz FDD	0.00024
3.4 GHz	0.00270
3.8 GHz	0.00637
Others	0.31420
Total	0.40731

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.