

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:	14/03/2025	Time Survey completed:	15:19
Survey address:	Burnley BB11		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072593	06/03/2025
Probe	Agos Aria-6000 Antenna	6000-1022	22/01/2021
Cabling	1.7m cable	1462	18/01/2024

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:	14:32
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00921
174-230 MHz	0.01001
470-694 MHz	0.00745
700 MHz	0.01235
800 MHz	0.00305
900 MHz	0.00053
1400 MHz	0.01637
1800 MHz	0.00335
1900 MHz	0.00017
2100 MHz	0.00285
2300 MHz	0.00035
2600 MHz TDD	0.00031
2600 MHz FDD	0.00019
3.4 GHz	0.00197
3.8 GHz	0.00393
Others	0.12212
Total	0.19423

Location 2

Measurement time:	14:40
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01261
174-230 MHz	0.00983
470-694 MHz	0.00768
700 MHz	0.00404
800 MHz	0.00123
900 MHz	0.00063
1400 MHz	0.00355
1800 MHz	0.00138
1900 MHz	0.00018
2100 MHz	0.00222
2300 MHz	0.00036
2600 MHz TDD	0.00033
2600 MHz FDD	0.00019
3.4 GHz	0.00199
3.8 GHz	0.00416
Others	0.12768
Total	0.17805

Location 3

Measurement time:	14:49
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01095
174-230 MHz	0.01026
470-694 MHz	0.00794
700 MHz	0.01379
800 MHz	0.00315
900 MHz	0.00066
1400 MHz	0.00668
1800 MHz	0.00812
1900 MHz	0.00019
2100 MHz	0.00399
2300 MHz	0.00038
2600 MHz TDD	0.00034
2600 MHz FDD	0.00040
3.4 GHz	0.00226
3.8 GHz	0.00436
Others	0.13258
Total	0.20605

Location 4

Measurement time:	14:57
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01011
174-230 MHz	0.01031
470-694 MHz	0.00806
700 MHz	0.00993
800 MHz	0.00483
900 MHz	0.00060
1400 MHz	0.00333
1800 MHz	0.00165
1900 MHz	0.00019
2100 MHz	0.00420
2300 MHz	0.00039
2600 MHz TDD	0.00035
2600 MHz FDD	0.00035
3.4 GHz	0.00250
3.8 GHz	0.00449
Others	0.13590
Total	0.19717

Location 5

Measurement time:	15:05
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01133
174-230 MHz	0.01065
470-694 MHz	0.00819
700 MHz	0.01057
800 MHz	0.00369
900 MHz	0.00061
1400 MHz	0.00311
1800 MHz	0.00255
1900 MHz	0.00020
2100 MHz	0.00287
2300 MHz	0.00039
2600 MHz TDD	0.00036
2600 MHz FDD	0.00020
3.4 GHz	0.00215
3.8 GHz	0.00462
Others	0.13846
Total	0.19996

Location 6

Measurement time:	15:13
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01020
174-230 MHz	0.01115
470-694 MHz	0.00833
700 MHz	0.00839
800 MHz	0.00374
900 MHz	0.00059
1400 MHz	0.01347
1800 MHz	0.00589
1900 MHz	0.00020
2100 MHz	0.00236
2300 MHz	0.00040
2600 MHz TDD	0.00036
2600 MHz FDD	0.00025
3.4 GHz	0.00232
3.8 GHz	0.00473
Others	0.14186
Total	0.21425

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.