

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:	27/10/2025	Time Survey completed:	12:48
Survey address:	Blackburn BB2		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072593	06/08/2025
Probe	Agos Aria-6000 Antenna	AGOS-6000-1022	08/07/2025
Cabling	1.7m cable	1462	08/07/2025

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:	12:03
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00786
174-230 MHz	0.00907
470-694 MHz	0.00723
700 MHz	0.01951
800 MHz	0.00783
900 MHz	0.00063
1400 MHz	0.05788
1800 MHz	0.00757
1900 MHz	0.00017
2100 MHz	0.00326
2300 MHz	0.00036
2600 MHz TDD	0.00034
2600 MHz FDD	0.00018
3.4 GHz	0.00217
3.8 GHz	0.00367
Others	0.11598
Total	0.24374

Location 2

Measurement time:	12:11
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00831
174-230 MHz	0.00957
470-694 MHz	0.00761
700 MHz	0.03243
800 MHz	0.01179
900 MHz	0.00061
1400 MHz	0.03127
1800 MHz	0.01105
1900 MHz	0.00018
2100 MHz	0.00572
2300 MHz	0.00038
2600 MHz TDD	0.00036
2600 MHz FDD	0.00020
3.4 GHz	0.00245
3.8 GHz	0.00393
Others	0.12310
Total	0.24896

Location 3

Measurement time:	12:20
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00888
174-230 MHz	0.00998
470-694 MHz	0.00792
700 MHz	0.03502
800 MHz	0.00919
900 MHz	0.00060
1400 MHz	0.00678
1800 MHz	0.01096
1900 MHz	0.00019
2100 MHz	0.00285
2300 MHz	0.00040
2600 MHz TDD	0.00038
2600 MHz FDD	0.00017
3.4 GHz	0.00215
3.8 GHz	0.00419
Others	0.12990
Total	0.22956

Location 4

Measurement time:	12:28
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00918
174-230 MHz	0.01050
470-694 MHz	0.00825
700 MHz	0.02629
800 MHz	0.00810
900 MHz	0.00079
1400 MHz	0.07218
1800 MHz	0.00912
1900 MHz	0.00020
2100 MHz	0.00702
2300 MHz	0.00044
2600 MHz TDD	0.00040
2600 MHz FDD	0.00019
3.4 GHz	0.00257
3.8 GHz	0.00444
Others	0.13562
Total	0.29530

Location 5

Measurement time:	12:35
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00947
174-230 MHz	0.01080
470-694 MHz	0.00839
700 MHz	0.02804
800 MHz	0.01058
900 MHz	0.00116
1400 MHz	0.03666
1800 MHz	0.00971
1900 MHz	0.00020
2100 MHz	0.00714
2300 MHz	0.00045
2600 MHz TDD	0.00041
2600 MHz FDD	0.00026
3.4 GHz	0.00288
3.8 GHz	0.00461
Others	0.13944
Total	0.27021

Location 6

Measurement time:	12:42
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00958
174-230 MHz	0.01095
470-694 MHz	0.00856
700 MHz	0.01620
800 MHz	0.00773
900 MHz	0.00078
1400 MHz	0.03937
1800 MHz	0.00843
1900 MHz	0.00021
2100 MHz	0.00933
2300 MHz	0.00047
2600 MHz TDD	0.00042
2600 MHz FDD	0.00023
3.4 GHz	0.00299
3.8 GHz	0.00475
Others	0.14254
Total	0.26253

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.