

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:	21/03/2025	Time Survey completed:	14:34
Survey address:	Accrington BB5		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072592	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 five locations and are presented in the following pages of this report.



Location 1

Measurement time:	13:51
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00825
174-230 MHz	0.00942
470-694 MHz	0.00899
700 MHz	0.03231
800 MHz	0.00749
900 MHz	0.00074
1400 MHz	0.02329
1800 MHz	0.00555
1900 MHz	0.00018
2100 MHz	0.00225
2300 MHz	0.00036
2600 MHz TDD	0.00032
2600 MHz FDD	0.00018
3.4 GHz	0.00190
3.8 GHz	0.00401
Others	0.12421
Total	0.22944

Location 2

Measurement time:	14:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00898
174-230 MHz	0.01026
470-694 MHz	0.00970
700 MHz	0.01074
800 MHz	0.00428
900 MHz	0.00067
1400 MHz	0.00632
1800 MHz	0.00269
1900 MHz	0.00019
2100 MHz	0.00195
2300 MHz	0.00038
2600 MHz TDD	0.00035
2600 MHz FDD	0.00021
3.4 GHz	0.00228
3.8 GHz	0.00444
Others	0.13438
Total	0.19782

Location 3

Measurement time:	14:11
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00935
174-230 MHz	0.01073
470-694 MHz	0.00871
700 MHz	0.01563
800 MHz	0.00653
900 MHz	0.00064
1400 MHz	0.01533
1800 MHz	0.02381
1900 MHz	0.00020
2100 MHz	0.01164
2300 MHz	0.00040
2600 MHz TDD	0.00037
2600 MHz FDD	0.00023
3.4 GHz	0.00234
3.8 GHz	0.00479
Others	0.14276
Total	0.25346

Location 4

Measurement time:	14:20
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00969
174-230 MHz	0.01096
470-694 MHz	0.00906
700 MHz	0.01492
800 MHz	0.00260
900 MHz	0.00062
1400 MHz	0.00710
1800 MHz	0.00899
1900 MHz	0.00021
2100 MHz	0.00458
2300 MHz	0.00042
2600 MHz TDD	0.00039
2600 MHz FDD	0.00019
3.4 GHz	0.00336
3.8 GHz	0.00503
Others	0.14843
Total	0.22653

Location 5

Measurement time:	14:28
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00992
174-230 MHz	0.01136
470-694 MHz	0.01095
700 MHz	0.03470
800 MHz	0.00959
900 MHz	0.00068
1400 MHz	0.01041
1800 MHz	0.00298
1900 MHz	0.00021
2100 MHz	0.00227
2300 MHz	0.00043
2600 MHz TDD	0.00039
2600 MHz FDD	0.00021
3.4 GHz	0.00254
3.8 GHz	0.00520
Others	0.15277
Total	0.25463

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.