

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:	28/02/2025	Time Survey completed:	10:15
Survey address:	Accrington BB5		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072593	06/03/2024
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:	09:27
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00988
174-230 MHz	0.01114
470-694 MHz	0.00875
700 MHz	0.00524
800 MHz	0.00227
900 MHz	0.00116
1400 MHz	0.00160
1800 MHz	0.00246
1900 MHz	0.00021
2100 MHz	0.00111
2300 MHz	0.00044
2600 MHz TDD	0.00041
2600 MHz FDD	0.00102
3.4 GHz	0.00234
3.8 GHz	0.00503
Others	0.14781
Total	0.20087

Location 2

Measurement time:	09:35
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01018
174-230 MHz	0.01141
470-694 MHz	0.00898
700 MHz	0.01425
800 MHz	0.00627
900 MHz	0.00106
1400 MHz	0.01092
1800 MHz	0.00890
1900 MHz	0.00022
2100 MHz	0.00783
2300 MHz	0.00045
2600 MHz TDD	0.00041
2600 MHz FDD	0.00047
3.4 GHz	0.00271
3.8 GHz	0.00518
Others	0.15183
Total	0.24107

Location 3

Measurement time:	09:43
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01005
174-230 MHz	0.01152
470-694 MHz	0.00898
700 MHz	0.01336
800 MHz	0.00487
900 MHz	0.00071
1400 MHz	0.02394
1800 MHz	0.00763
1900 MHz	0.00022
2100 MHz	0.00510
2300 MHz	0.00045
2600 MHz TDD	0.00042
2600 MHz FDD	0.00025
3.4 GHz	0.00247
3.8 GHz	0.00515
Others	0.15183
Total	0.24695

Location 4

Measurement time:	09:52
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01020
174-230 MHz	0.01179
470-694 MHz	0.00915
700 MHz	0.02032
800 MHz	0.00578
900 MHz	0.00113
1400 MHz	0.00788
1800 MHz	0.00285
1900 MHz	0.00022
2100 MHz	0.00316
2300 MHz	0.00046
2600 MHz TDD	0.00042
2600 MHz FDD	0.00026
3.4 GHz	0.00363
3.8 GHz	0.00527
Others	0.15451
Total	0.23703

Location 5

Measurement time:	10:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01024
174-230 MHz	0.01170
470-694 MHz	0.00910
700 MHz	0.00269
800 MHz	0.00147
900 MHz	0.00077
1400 MHz	0.00329
1800 MHz	0.00215
1900 MHz	0.00022
2100 MHz	0.00115
2300 MHz	0.00045
2600 MHz TDD	0.00042
2600 MHz FDD	0.00027
3.4 GHz	0.00244
3.8 GHz	0.00524
Others	0.15440
Total	0.20600

Location 6

Measurement time:	10:09
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01029
174-230 MHz	0.01176
470-694 MHz	0.00914
700 MHz	0.00320
800 MHz	0.00231
900 MHz	0.00122
1400 MHz	0.00143
1800 MHz	0.00244
1900 MHz	0.00022
2100 MHz	0.00106
2300 MHz	0.00046
2600 MHz TDD	0.00042
2600 MHz FDD	0.00095
3.4 GHz	0.00245
3.8 GHz	0.00525
Others	0.15467
Total	0.20727

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.