

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:	11:18
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:	10:31
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00982
174-230 MHz	0.01120
470-694 MHz	0.00876
700 MHz	0.03034
800 MHz	0.00513
900 MHz	0.00063
1400 MHz	0.00319
1800 MHz	0.00398
1900 MHz	0.00021
2100 MHz	0.00436
2300 MHz	0.00044
2600 MHz TDD	0.00040
2600 MHz FDD	0.00020
3.4 GHz	0.00317
3.8 GHz	0.00501
Others	0.14779
Total	0.23462

Location 2

Measurement time:	10:39
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00995
174-230 MHz	0.01150
470-694 MHz	0.00895
700 MHz	0.02873
800 MHz	0.00785
900 MHz	0.00068
1400 MHz	0.00330
1800 MHz	0.00166
1900 MHz	0.00021
2100 MHz	0.00208
2300 MHz	0.00045
2600 MHz TDD	0.00041
2600 MHz FDD	0.00021
3.4 GHz	0.00265
3.8 GHz	0.00508
Others	0.14983
Total	0.23352

Location 3

Measurement time:	10:47
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00996
174-230 MHz	0.01138
470-694 MHz	0.00897
700 MHz	0.00796
800 MHz	0.00321
900 MHz	0.00064
1400 MHz	0.00212
1800 MHz	0.00369
1900 MHz	0.00021
2100 MHz	0.00362
2300 MHz	0.00045
2600 MHz TDD	0.00041
2600 MHz FDD	0.00021
3.4 GHz	0.00254
3.8 GHz	0.00510
Others	0.15060
Total	0.21106

Location 4

Measurement time:	10:55
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01030
174-230 MHz	0.01162
470-694 MHz	0.00907
700 MHz	0.01121
800 MHz	0.00598
900 MHz	0.00067
1400 MHz	0.00160
1800 MHz	0.00291
1900 MHz	0.00022
2100 MHz	0.00094
2300 MHz	0.00045
2600 MHz TDD	0.00041
2600 MHz FDD	0.00022
3.4 GHz	0.00248
3.8 GHz	0.00519
Others	0.15284
Total	0.21611

Location 5

Measurement time:	11:03
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01021
174-230 MHz	0.01157
470-694 MHz	0.00901
700 MHz	0.00849
800 MHz	0.00278
900 MHz	0.00067
1400 MHz	0.00332
1800 MHz	0.00359
1900 MHz	0.00022
2100 MHz	0.00648
2300 MHz	0.00045
2600 MHz TDD	0.00042
2600 MHz FDD	0.00021
3.4 GHz	0.00390
3.8 GHz	0.00522
Others	0.15353
Total	0.22007

Location 6

Measurement time:	11:12
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01041
174-230 MHz	0.01176
470-694 MHz	0.00919
700 MHz	0.01919
800 MHz	0.00315
900 MHz	0.00066
1400 MHz	0.00365
1800 MHz	0.00268
1900 MHz	0.00022
2100 MHz	0.00758
2300 MHz	0.00046
2600 MHz TDD	0.00042
2600 MHz FDD	0.00021
3.4 GHz	0.00292
3.8 GHz	0.00530
Others	0.15561
Total	0.23341

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.