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 floor[2] 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:	28/10/2025	**Time Survey completed:**	12:17
Survey address:	Bolton BL2		

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:	11:21
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00906
174-230 MHz	0.01095
470-694 MHz	0.00902
700 MHz	0.00839
800 MHz	0.01391
900 MHz	0.01491
1400 MHz	0.00364
1800 MHz	0.00674
1900 MHz	0.00020
2100 MHz	0.01077
2300 MHz	0.00041
2600 MHz TDD	0.00040
2600 MHz FDD	0.00078
3.4 GHz	0.00797
3.8 GHz	0.00448
Others	0.13322
Total	**0.23485**

Location 2

Measurement time:	11:30
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00938
174-230 MHz	0.01098
470-694 MHz	0.01010
700 MHz	0.00634
800 MHz	0.01096
900 MHz	0.01613
1400 MHz	0.00330
1800 MHz	0.00593
1900 MHz	0.00020
2100 MHz	0.00682
2300 MHz	0.00043
2600 MHz TDD	0.00046
2600 MHz FDD	0.00246
3.4 GHz	0.00668
3.8 GHz	0.00470
Others	0.14049
Total	**0.23536**

Location 3

Measurement time:	11:39
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00974
174-230 MHz	0.01130
470-694 MHz	0.00877
700 MHz	0.01011
800 MHz	0.07011
900 MHz	0.02163
1400 MHz	0.00629
1800 MHz	0.00243
1900 MHz	0.00021
2100 MHz	0.00444
2300 MHz	0.00045
2600 MHz TDD	0.00044
2600 MHz FDD	0.00067
3.4 GHz	0.00444
3.8 GHz	0.00487
Others	0.14511
Total	**0.30101**

Location 4

Measurement time:	11:50
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01014
174-230 MHz	0.01273
470-694 MHz	0.01249
700 MHz	0.00231
800 MHz	0.00531
900 MHz	0.00444
1400 MHz	0.00327
1800 MHz	0.01394
1900 MHz	0.00022
2100 MHz	0.01269
2300 MHz	0.00047
2600 MHz TDD	0.00046
2600 MHz FDD	0.00463
3.4 GHz	0.00497
3.8 GHz	0.00517
Others	0.14968
Total	**0.24292**

Location 5

Measurement time:	12:04
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01006
174-230 MHz	0.01199
470-694 MHz	0.00915
700 MHz	0.02577
800 MHz	0.14234
900 MHz	0.09610
1400 MHz	0.00767
1800 MHz	0.00683
1900 MHz	0.00022
2100 MHz	0.01475
2300 MHz	0.00046
2600 MHz TDD	0.00047
2600 MHz FDD	0.00269
3.4 GHz	0.00642
3.8 GHz	0.00512
Others	0.15073
Total	**0.49077**

Location 6

Measurement time:	12:11
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01015
174-230 MHz	0.01238
470-694 MHz	0.00976
700 MHz	0.01131
800 MHz	0.01868
900 MHz	0.01949
1400 MHz	0.00540
1800 MHz	0.00948
1900 MHz	0.00022
2100 MHz	0.00831
2300 MHz	0.00047
2600 MHz TDD	0.00046
2600 MHz FDD	0.00308
3.4 GHz	0.00791
3.8 GHz	0.00514
Others	0.15056
Total	**0.27279**

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.