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:	01/05/2025	**Time Survey completed:**	13:36
Survey address:	Belfast BT16		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240264	30/01/2025
Probe	Agos Aria-6000 Antenna	6000-1112	28/11/2022
Cabling	1.7m cable	1314	28/11/2022

[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:	12:47
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01266
174-230 MHz	0.00952
470-694 MHz	0.00748
700 MHz	0.00107
800 MHz	0.00107
900 MHz	0.00125
1400 MHz	0.00035
1800 MHz	0.00051
1900 MHz	0.00014
2100 MHz	0.00063
2300 MHz	0.00034
2600 MHz TDD	0.00034
2600 MHz FDD	0.00018
3.4 GHz	0.00147
3.8 GHz	0.00354
Others	0.12927
Total	**0.16984**

Location 2

Measurement time:	12:56
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01425
174-230 MHz	0.00927
470-694 MHz	0.00761
700 MHz	0.00136
800 MHz	0.01614
900 MHz	0.01934
1400 MHz	0.00079
1800 MHz	0.00375
1900 MHz	0.00014
2100 MHz	0.01085
2300 MHz	0.00033
2600 MHz TDD	0.00033
2600 MHz FDD	0.00045
3.4 GHz	0.00227
3.8 GHz	0.00345
Others	0.12708
Total	**0.21742**

Location 3

Measurement time:	13:05
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01367
174-230 MHz	0.00931
470-694 MHz	0.00724
700 MHz	0.00202
800 MHz	0.00772
900 MHz	0.01473
1400 MHz	0.00192
1800 MHz	0.00690
1900 MHz	0.00014
2100 MHz	0.00503
2300 MHz	0.00032
2600 MHz TDD	0.00032
2600 MHz FDD	0.00094
3.4 GHz	0.00272
3.8 GHz	0.00332
Others	0.12243
Total	**0.19873**

Location 4

Measurement time:	13:13
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.02551
174-230 MHz	0.00892
470-694 MHz	0.01224
700 MHz	0.00099
800 MHz	0.00323
900 MHz	0.00680
1400 MHz	0.00035
1800 MHz	0.00255
1900 MHz	0.00013
2100 MHz	0.01335
2300 MHz	0.00031
2600 MHz TDD	0.00031
2600 MHz FDD	0.00019
3.4 GHz	0.00205
3.8 GHz	0.00318
Others	0.11855
Total	**0.19866**

Location 5

Measurement time:	13:20
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01564
174-230 MHz	0.00878
470-694 MHz	0.00768
700 MHz	0.00116
800 MHz	0.00311
900 MHz	0.00176
1400 MHz	0.00040
1800 MHz	0.00186
1900 MHz	0.00013
2100 MHz	0.00356
2300 MHz	0.00031
2600 MHz TDD	0.00031
2600 MHz FDD	0.00048
3.4 GHz	0.00187
3.8 GHz	0.00310
Others	0.11568
Total	**0.16583**

Location 6

Measurement time:	13:30
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01254
174-230 MHz	0.00852
470-694 MHz	0.00671
700 MHz	0.00102
800 MHz	0.00164
900 MHz	0.00077
1400 MHz	0.00031
1800 MHz	0.00055
1900 MHz	0.00012
2100 MHz	0.00074
2300 MHz	0.00030
2600 MHz TDD	0.00029
2600 MHz FDD	0.00016
3.4 GHz	0.00128
3.8 GHz	0.00302
Others	0.11332
Total	**0.15128**

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.