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:	14/03/2025	**Time Survey completed:**	10:55
Survey address:	Lisburn BT28		

Measurement equipment		**Serial number**	**Calibration Date**
Meter	Keysight Fieldfox N9915A Spectrum Analyser	55240264	30/01/2025
Probe	Agos Aria-6000 Antenna	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:	10:09
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00724
174-230 MHz	0.00637
470-694 MHz	0.00509
700 MHz	0.00230
800 MHz	0.04873
900 MHz	0.06568
1400 MHz	0.00026
1800 MHz	0.00035
1900 MHz	0.00009
2100 MHz	0.00717
2300 MHz	0.00021
2600 MHz TDD	0.00086
2600 MHz FDD	0.00011
3.4 GHz	0.00085
3.8 GHz	0.00237
Others	0.08318
Total	**0.23087**

Location 2

Measurement time:	10:16
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00734
174-230 MHz	0.00657
470-694 MHz	0.00513
700 MHz	0.00134
800 MHz	0.00891
900 MHz	0.01545
1400 MHz	0.00023
1800 MHz	0.00028
1900 MHz	0.00009
2100 MHz	0.00342
2300 MHz	0.00022
2600 MHz TDD	0.00108
2600 MHz FDD	0.00011
3.4 GHz	0.00086
3.8 GHz	0.00240
Others	0.08584
Total	**0.13926**

Location 3

Measurement time:	10:23
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00740
174-230 MHz	0.00670
470-694 MHz	0.00527
700 MHz	0.00161
800 MHz	0.01640
900 MHz	0.01842
1400 MHz	0.00023
1800 MHz	0.00028
1900 MHz	0.00010
2100 MHz	0.00084
2300 MHz	0.00023
2600 MHz TDD	0.00060
2600 MHz FDD	0.00011
3.4 GHz	0.00091
3.8 GHz	0.00235
Others	0.08914
Total	**0.15059**

Location 4

Measurement time:	10:32
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00755
174-230 MHz	0.00692
470-694 MHz	0.00542
700 MHz	0.00209
800 MHz	0.05179
900 MHz	0.12965
1400 MHz	0.00024
1800 MHz	0.00030
1900 MHz	0.00010
2100 MHz	0.00158
2300 MHz	0.00023
2600 MHz TDD	0.00047
2600 MHz FDD	0.00012
3.4 GHz	0.00094
3.8 GHz	0.00246
Others	0.09354
Total	**0.30340**

Location 5

Measurement time:	10:41
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00767
174-230 MHz	0.00704
470-694 MHz	0.00559
700 MHz	0.00144
800 MHz	0.00541
900 MHz	0.00848
1400 MHz	0.00034
1800 MHz	0.00044
1900 MHz	0.00010
2100 MHz	0.00078
2300 MHz	0.00024
2600 MHz TDD	0.00054
2600 MHz FDD	0.00014
3.4 GHz	0.00102
3.8 GHz	0.00261
Others	0.09320
Total	**0.13505**

Location 6

Measurement time:	10:49
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00792
174-230 MHz	0.00716
470-694 MHz	0.00573
700 MHz	0.00143
800 MHz	0.03188
900 MHz	0.08102
1400 MHz	0.00029
1800 MHz	0.00039
1900 MHz	0.00010
2100 MHz	0.00710
2300 MHz	0.00025
2600 MHz TDD	0.00109
2600 MHz FDD	0.00013
3.4 GHz	0.00100
3.8 GHz	0.00254
Others	0.09531
Total	**0.24334**

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.