

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:	14/03/2025	Time Survey completed:	12:48
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 420 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:	11:58
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01037
174-230 MHz	0.00950
470-694 MHz	0.00738
700 MHz	0.00116
800 MHz	0.00335
900 MHz	0.02450
1400 MHz	0.00034
1800 MHz	0.00078
1900 MHz	0.00015
2100 MHz	0.00106
2300 MHz	0.00035
2600 MHz TDD	0.00054
2600 MHz FDD	0.00018
3.4 GHz	0.00161
3.8 GHz	0.00360
Others	0.13100
Total	0.19585

Location 2

Measurement time:	12:05
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01025
174-230 MHz	0.00924
470-694 MHz	0.00718
700 MHz	0.00113
800 MHz	0.01296
900 MHz	0.01839
1400 MHz	0.00032
1800 MHz	0.00216
1900 MHz	0.00014
2100 MHz	0.00164
2300 MHz	0.00033
2600 MHz TDD	0.00091
2600 MHz FDD	0.00017
3.4 GHz	0.00146
3.8 GHz	0.00340
Others	0.12444
Total	0.19411

Location 3

Measurement time:	12:16
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00964
174-230 MHz	0.00860
470-694 MHz	0.00672
700 MHz	0.00126
800 MHz	0.00979
900 MHz	0.01137
1400 MHz	0.00034
1800 MHz	0.00120
1900 MHz	0.00013
2100 MHz	0.00218
2300 MHz	0.00031
2600 MHz TDD	0.00070
2600 MHz FDD	0.00016
3.4 GHz	0.00153
3.8 GHz	0.00314
Others	0.11718
Total	0.17423

Location 4

Measurement time:	12:23
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00976
174-230 MHz	0.00847
470-694 MHz	0.00659
700 MHz	0.00099
800 MHz	0.00221
900 MHz	0.00511
1400 MHz	0.00030
1800 MHz	0.00336
1900 MHz	0.00013
2100 MHz	0.00111
2300 MHz	0.00030
2600 MHz TDD	0.00037
2600 MHz FDD	0.00015
3.4 GHz	0.00128
3.8 GHz	0.00305
Others	0.11423
Total	0.15740

Location 5

Measurement time:	12:33
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00888
174-230 MHz	0.00809
470-694 MHz	0.00647
700 MHz	0.00138
800 MHz	0.00485
900 MHz	0.01942
1400 MHz	0.00031
1800 MHz	0.00069
1900 MHz	0.00012
2100 MHz	0.00082
2300 MHz	0.00028
2600 MHz TDD	0.00044
2600 MHz FDD	0.00015
3.4 GHz	0.00127
3.8 GHz	0.00288
Others	0.10846
Total	0.16451

Location 6

Measurement time:	12:42
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00972
174-230 MHz	0.00797
470-694 MHz	0.00623
700 MHz	0.00098
800 MHz	0.00788
900 MHz	0.01678
1400 MHz	0.00028
1800 MHz	0.00124
1900 MHz	0.00012
2100 MHz	0.00234
2300 MHz	0.00028
2600 MHz TDD	0.00056
2600 MHz FDD	0.00014
3.4 GHz	0.00133
3.8 GHz	0.00281
Others	0.10779
Total	0.16644

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.