

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:	19/08/2025	Time Survey completed:	13:53
Survey address:	Newtownards BT23		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240264	30/01/2025
Probe	Agos Aria-6000 Antenna	1112	08/07/2025
Cabling	1.7m cable	1314	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:	12:55
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01192
174-230 MHz	0.01163
470-694 MHz	0.00867
700 MHz	0.01133
800 MHz	0.10786
900 MHz	0.06304
1400 MHz	0.00040
1800 MHz	0.01192
1900 MHz	0.00017
2100 MHz	0.00430
2300 MHz	0.00042
2600 MHz TDD	0.00099
2600 MHz FDD	0.00022
3.4 GHz	0.00182
3.8 GHz	0.00555
Others	0.15608
Total	0.39630

Location 2

Measurement time:	13:05
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01095
174-230 MHz	0.01054
470-694 MHz	0.00825
700 MHz	0.00176
800 MHz	0.00969
900 MHz	0.00146
1400 MHz	0.00037
1800 MHz	0.00079
1900 MHz	0.00016
2100 MHz	0.00241
2300 MHz	0.00039
2600 MHz TDD	0.00072
2600 MHz FDD	0.00021
3.4 GHz	0.00169
3.8 GHz	0.00432
Others	0.14613
Total	0.19985

Location 3

Measurement time:	13:16
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01045
174-230 MHz	0.00993
470-694 MHz	0.00774
700 MHz	0.00228
800 MHz	0.00753
900 MHz	0.00208
1400 MHz	0.00035
1800 MHz	0.00069
1900 MHz	0.00015
2100 MHz	0.00230
2300 MHz	0.00037
2600 MHz TDD	0.00089
2600 MHz FDD	0.00019
3.4 GHz	0.00157
3.8 GHz	0.00421
Others	0.13813
Total	0.18886

Location 4

Measurement time:	13:27
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01063
174-230 MHz	0.01008
470-694 MHz	0.00782
700 MHz	0.00207
800 MHz	0.00693
900 MHz	0.00351
1400 MHz	0.00035
1800 MHz	0.00106
1900 MHz	0.00015
2100 MHz	0.00274
2300 MHz	0.00037
2600 MHz TDD	0.00067
2600 MHz FDD	0.00019
3.4 GHz	0.00157
3.8 GHz	0.00422
Others	0.13761
Total	0.18997

Location 5

Measurement time:	13:39
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01050
174-230 MHz	0.01181
470-694 MHz	0.00747
700 MHz	0.00407
800 MHz	0.05719
900 MHz	0.08638
1400 MHz	0.00034
1800 MHz	0.01049
1900 MHz	0.00015
2100 MHz	0.01707
2300 MHz	0.00035
2600 MHz TDD	0.00242
2600 MHz FDD	0.00018
3.4 GHz	0.00149
3.8 GHz	0.00429
Others	0.13329
Total	0.34747

Location 6

Measurement time:	13:47
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01002
174-230 MHz	0.00948
470-694 MHz	0.00733
700 MHz	0.00134
800 MHz	0.01863
900 MHz	0.00201
1400 MHz	0.00033
1800 MHz	0.00112
1900 MHz	0.00015
2100 MHz	0.00209
2300 MHz	0.00035
2600 MHz TDD	0.00050
2600 MHz FDD	0.00018
3.4 GHz	0.00148
3.8 GHz	0.00390
Others	0.12891
Total	0.18782

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.