

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:	14/10/2025	Time Survey completed:	11:32
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:	10:41
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01059
174-230 MHz	0.00960
470-694 MHz	0.00747
700 MHz	0.00631
800 MHz	0.00570
900 MHz	0.01666
1400 MHz	0.00034
1800 MHz	0.00051
1900 MHz	0.00015
2100 MHz	0.00186
2300 MHz	0.00036
2600 MHz TDD	0.00115
2600 MHz FDD	0.00018
3.4 GHz	0.00152
3.8 GHz	0.00486
Others	0.13337
Total	0.20063

Location 2

Measurement time:	10:49
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01014
174-230 MHz	0.00944
470-694 MHz	0.00734
700 MHz	0.00359
800 MHz	0.00273
900 MHz	0.01026
1400 MHz	0.00034
1800 MHz	0.00045
1900 MHz	0.00015
2100 MHz	0.00091
2300 MHz	0.00035
2600 MHz TDD	0.00154
2600 MHz FDD	0.00018
3.4 GHz	0.00148
3.8 GHz	0.00370
Others	0.12986
Total	0.18244

Location 3

Measurement time:	10:58
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00967
174-230 MHz	0.00906
470-694 MHz	0.00715
700 MHz	0.00260
800 MHz	0.00204
900 MHz	0.00355
1400 MHz	0.00032
1800 MHz	0.00041
1900 MHz	0.00014
2100 MHz	0.00191
2300 MHz	0.00034
2600 MHz TDD	0.00070
2600 MHz FDD	0.00017
3.4 GHz	0.00141
3.8 GHz	0.00376
Others	0.12578
Total	0.16901

Location 4

Measurement time:	11:06
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00949
174-230 MHz	0.00886
470-694 MHz	0.00692
700 MHz	0.00187
800 MHz	0.00210
900 MHz	0.00860
1400 MHz	0.00031
1800 MHz	0.00040
1900 MHz	0.00013
2100 MHz	0.00181
2300 MHz	0.00032
2600 MHz TDD	0.00146
2600 MHz FDD	0.00017
3.4 GHz	0.00136
3.8 GHz	0.00369
Others	0.12191
Total	0.16941

Location 5

Measurement time:	11:17
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00995
174-230 MHz	0.00880
470-694 MHz	0.00683
700 MHz	0.00313
800 MHz	0.01875
900 MHz	0.01844
1400 MHz	0.00031
1800 MHz	0.00038
1900 MHz	0.00013
2100 MHz	0.00128
2300 MHz	0.00032
2600 MHz TDD	0.00075
2600 MHz FDD	0.00016
3.4 GHz	0.00134
3.8 GHz	0.00363
Others	0.12095
Total	0.19514

Location 6

Measurement time:	11:26
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00987
174-230 MHz	0.00879
470-694 MHz	0.00680
700 MHz	0.00203
800 MHz	0.01058
900 MHz	0.01384
1400 MHz	0.00030
1800 MHz	0.00047
1900 MHz	0.00013
2100 MHz	0.00230
2300 MHz	0.00032
2600 MHz TDD	0.00086
2600 MHz FDD	0.00016
3.4 GHz	0.00133
3.8 GHz	0.00351
Others	0.12015
Total	0.18145

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.