

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: 24/09/2025

Time Survey completed:

11:57

Survey address: Portrush BT56

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: 11:01	
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00743
174-230 MHz	0.00686
470-694 MHz	0.00529
700 MHz	0.00071
800 MHz	0.21068
900 MHz	0.15406
1400 MHz	0.00023
1800 MHz	0.01429
1900 MHz	0.00010
2100 MHz	0.08956
2300 MHz	0.00023
2600 MHz TDD	0.00023
2600 MHz FDD	0.00011
3.4 GHz	0.00092
3.8 GHz	0.00225
Others	0.09328
Total	0.58624

Location 2

Measurement time: 11:09	
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00759
174-230 MHz	0.00707
470-694 MHz	0.00547
700 MHz	0.00072
800 MHz	0.01301
900 MHz	0.00184
1400 MHz	0.00024
1800 MHz	0.00043
1900 MHz	0.00010
2100 MHz	0.00301
2300 MHz	0.00025
2600 MHz TDD	0.00024
2600 MHz FDD	0.00012
3.4 GHz	0.00098
3.8 GHz	0.00238
Others	0.09364
Total	0.13708

Location 3

Measurement time: 11:19	
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00787
174-230 MHz	0.00728
470-694 MHz	0.00572
700 MHz	0.00075
800 MHz	0.00783
900 MHz	0.00075
1400 MHz	0.00025
1800 MHz	0.00064
1900 MHz	0.00011
2100 MHz	0.00195
2300 MHz	0.00026
2600 MHz TDD	0.00025
2600 MHz FDD	0.00013
3.4 GHz	0.00103
3.8 GHz	0.00252
Others	0.09806
Total	0.13539

Location 4

Measurement time: 11:29	
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00804
174-230 MHz	0.00745
470-694 MHz	0.00580
700 MHz	0.00078
800 MHz	0.00548
900 MHz	0.00223
1400 MHz	0.00026
1800 MHz	0.00206
1900 MHz	0.00011
2100 MHz	0.00361
2300 MHz	0.00026
2600 MHz TDD	0.00026
2600 MHz FDD	0.00013
3.4 GHz	0.00106
3.8 GHz	0.00260
Others	0.10021
Total	0.14033

Location 5

Measurement time: 11:40	
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00835
174-230 MHz	0.00770
470-694 MHz	0.00604
700 MHz	0.00080
800 MHz	0.00680
900 MHz	0.01234
1400 MHz	0.00027
1800 MHz	0.00075
1900 MHz	0.00011
2100 MHz	0.00537
2300 MHz	0.00027
2600 MHz TDD	0.00027
2600 MHz FDD	0.00014
3.4 GHz	0.00112
3.8 GHz	0.00274
Others	0.10429
Total	0.15738

Location 6

Measurement time: 11:51	
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00848
174-230 MHz	0.00798
470-694 MHz	0.00619
700 MHz	0.00083
800 MHz	0.07653
900 MHz	0.15447
1400 MHz	0.00028
1800 MHz	0.01514
1900 MHz	0.00012
2100 MHz	0.04220
2300 MHz	0.00028
2600 MHz TDD	0.00028
2600 MHz FDD	0.00014
3.4 GHz	0.00115
3.8 GHz	0.00284
Others	0.11045
Total	0.42736

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.