

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:	12:36
Survey address:	Bangor BT19		

Measurement equipment			Serial number	Calibration Date
Meter	Keysight Fieldfox N9950A 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:	11:50
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00948
174-230 MHz	0.00881
470-694 MHz	0.00689
700 MHz	0.00412
800 MHz	0.00339
900 MHz	0.04755
1400 MHz	0.00048
1800 MHz	0.00140
1900 MHz	0.00013
2100 MHz	0.00232
2300 MHz	0.00032
2600 MHz TDD	0.00064
2600 MHz FDD	0.00028
3.4 GHz	0.00151
3.8 GHz	0.00362
Others	0.12160
Total	0.21255

Location 2

Measurement time:	11:58
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00930
174-230 MHz	0.00883
470-694 MHz	0.00688
700 MHz	0.00225
800 MHz	0.00969
900 MHz	0.01320
1400 MHz	0.00033
1800 MHz	0.00044
1900 MHz	0.00013
2100 MHz	0.00210
2300 MHz	0.00032
2600 MHz TDD	0.00042
2600 MHz FDD	0.00019
3.4 GHz	0.00137
3.8 GHz	0.00411
Others	0.12151
Total	0.18109

Location 3

Measurement time:	12:05
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00978
174-230 MHz	0.00882
470-694 MHz	0.00684
700 MHz	0.00523
800 MHz	0.01312
900 MHz	0.02339
1400 MHz	0.00068
1800 MHz	0.00088
1900 MHz	0.00013
2100 MHz	0.00245
2300 MHz	0.00032
2600 MHz TDD	0.00039
2600 MHz FDD	0.00022
3.4 GHz	0.00138
3.8 GHz	0.00440
Others	0.12065
Total	0.19871

Location 4

Measurement time:	12:13
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00937
174-230 MHz	0.00880
470-694 MHz	0.00674
700 MHz	0.01118
800 MHz	0.03995
900 MHz	0.01338
1400 MHz	0.00065
1800 MHz	0.00163
1900 MHz	0.00013
2100 MHz	0.00139
2300 MHz	0.00031
2600 MHz TDD	0.00046
2600 MHz FDD	0.00031
3.4 GHz	0.00173
3.8 GHz	0.00346
Others	0.11873
Total	0.21822

Location 5

Measurement time:	12:21
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00964
174-230 MHz	0.00875
470-694 MHz	0.00678
700 MHz	0.02009
800 MHz	0.02863
900 MHz	0.02507
1400 MHz	0.00656
1800 MHz	0.00920
1900 MHz	0.00013
2100 MHz	0.00405
2300 MHz	0.00031
2600 MHz TDD	0.00061
2600 MHz FDD	0.00094
3.4 GHz	0.00199
3.8 GHz	0.00348
Others	0.11934
Total	0.24558

Location 6

Measurement time:	12:30
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00948
174-230 MHz	0.00862
470-694 MHz	0.00678
700 MHz	0.00429
800 MHz	0.00571
900 MHz	0.03459
1400 MHz	0.00071
1800 MHz	0.00100
1900 MHz	0.00013
2100 MHz	0.00224
2300 MHz	0.00032
2600 MHz TDD	0.00079
2600 MHz FDD	0.00030
3.4 GHz	0.00146
3.8 GHz	0.00380
Others	0.11928
Total	0.19949

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.