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 420 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 floor[2] 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:	**21/02/2024**	**Time Survey completed:**	**12:18**
Survey address:	Newtownabbey BT36		

Measurement equipment		**Serial number**	**Calibration Date**
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240264	21/12/2023
Probe	Agos Aria-6000 Antenna	6000-1112	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.

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**		

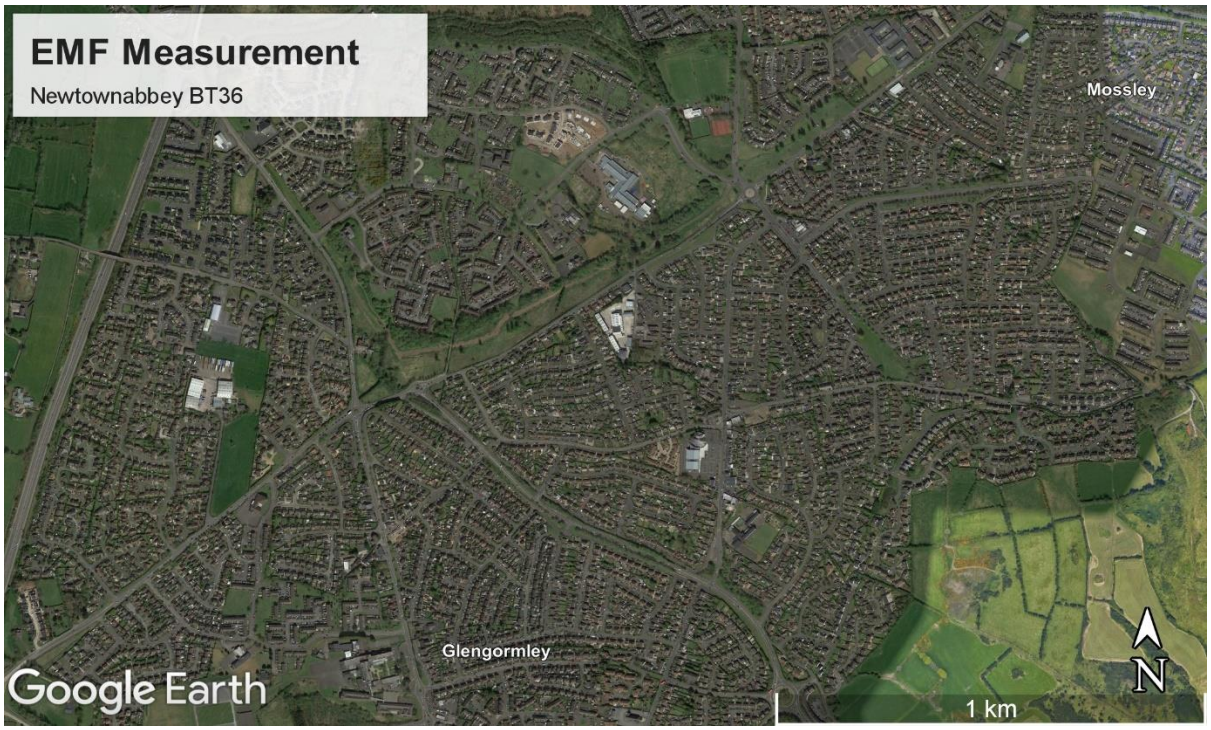
Notes

***** 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.

Survey locations

The survey was conducted within the area shown on the map below. Measurements were taken at six locations and are presented in the following pages of this report.



Location 1

Measurement Time:	11:17
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00185
800 MHz	0.01311
900 MHz	0.07328
1400 MHz	0.00023
1800 MHz	0.00206
1900 MHz	0.00009
2100 MHz	0.00602
2300 MHz	0.00023
2600 MHz TDD	0.00022
2600 MHz FDD	0.00011
3.4 GHz	0.00089
3.8 GHz	0.00232
others	0.03922
total	0.13963

Location 2

Measurement Time:	11:30
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00124
800 MHz	0.02055
900 MHz	0.02641
1400 MHz	0.00024
1800 MHz	0.00294
1900 MHz	0.00010
2100 MHz	0.00443
2300 MHz	0.00025
2600 MHz TDD	0.00024
2600 MHz FDD	0.00012
3.4 GHz	0.00098
3.8 GHz	0.00256
others	0.04003
total	0.10007

Location 3

Measurement Time:	11:40
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00129
800 MHz	0.01077
900 MHz	0.04436
1400 MHz	0.00025
1800 MHz	0.00663
1900 MHz	0.00010
2100 MHz	0.00136
2300 MHz	0.00025
2600 MHz TDD	0.00024
2600 MHz FDD	0.00012
3.4 GHz	0.00099
3.8 GHz	0.00252
others	0.04043
total	0.10930

Location 4

Measurement Time:	11:53
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00113
800 MHz	0.00276
900 MHz	0.00085
1400 MHz	0.00025
1800 MHz	0.00067
1900 MHz	0.00011
2100 MHz	0.00087
2300 MHz	0.00025
2600 MHz TDD	0.00025
2600 MHz FDD	0.00012
3.4 GHz	0.00101
3.8 GHz	0.00257
others	0.04031
total	0.05115

Location 5

Measurement Time:	12:01
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00117
800 MHz	0.00596
900 MHz	0.00675
1400 MHz	0.00026
1800 MHz	0.00338
1900 MHz	0.00011
2100 MHz	0.00144
2300 MHz	0.00026
2600 MHz TDD	0.00025
2600 MHz FDD	0.00013
3.4 GHz	0.00103
3.8 GHz	0.00257
others	0.04125
total	0.06456

Location 6

Measurement Time:	12:12
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00150
800 MHz	0.02136
900 MHz	0.08599
1400 MHz	0.00025
1800 MHz	0.00233
1900 MHz	0.00011
2100 MHz	0.01116
2300 MHz	0.00026
2600 MHz TDD	0.00026
2600 MHz FDD	0.00013
3.4 GHz	0.00103
3.8 GHz	0.00273
others	0.04574
total	0.17285

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.