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:	21/02/2023	**Time Survey completed**:	12:41
Survey address:	Belfast, Co. Antrim BT12		

Measurement equipment		**Serial number**	**Calibration Date**
Meter	Keysight Fieldfox N9950A Spectrum Analyser	US55240264	05/09/2022
Probe	Agos Aria-6000 Antenna	60001112	28/11/2022
Cabling	1.7m Cable	1112	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	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**		

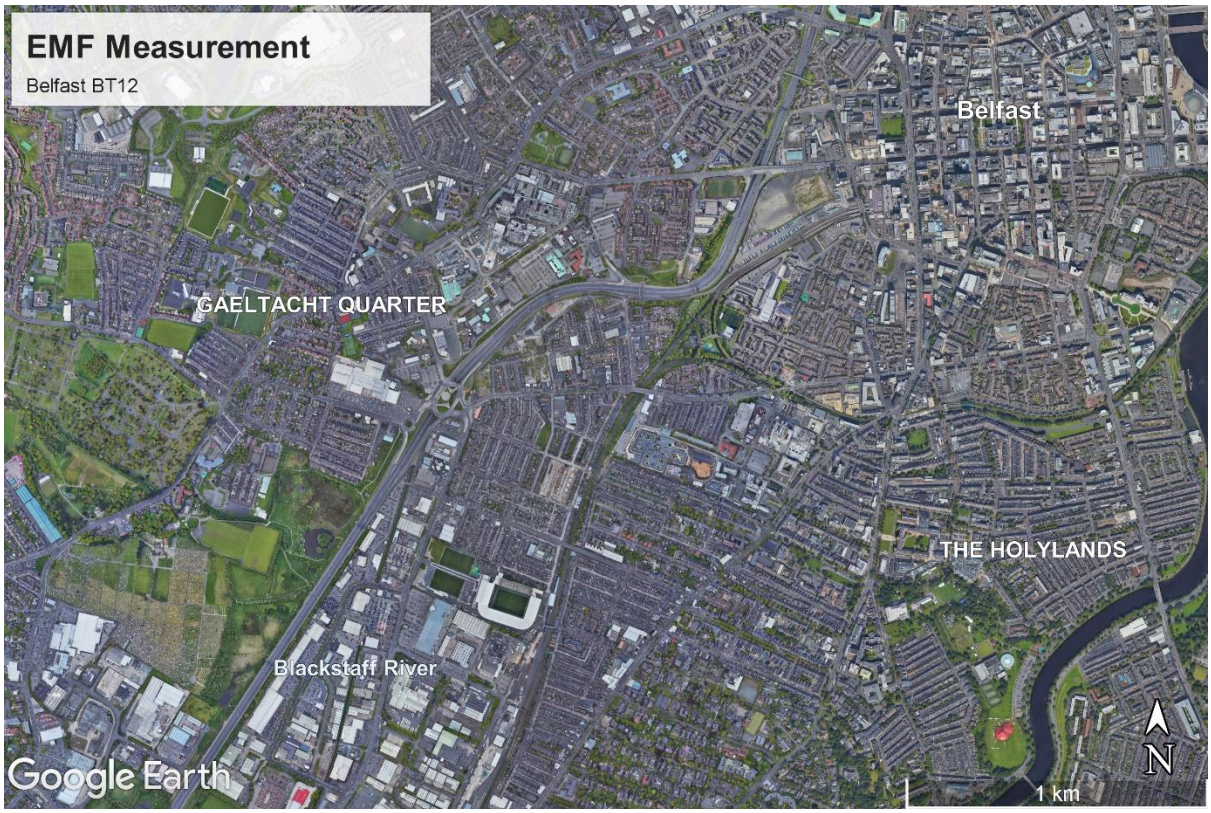
Notes

***** 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 between 420 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.



Map data: © Google

Location 1

Measurement time:	11:51
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00276
800 MHz	0.04328
900 MHz	0.03878
1400 MHz	0.00914
1800 MHz	0.05769
1900 MHz	0.00008
2100 MHz	0.02966
2300 MHz	0.00020
2600 MHz TDD	0.00021
2600 MHz FDD	0.00248
3.4 GHz	0.00288
3.8 GHz	0.00209
Others	0.04089
Total	0.23014

Location 2

Measurement time:	12:01
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00340
800 MHz	0.02910
900 MHz	0.00783
1400 MHz	0.00380
1800 MHz	0.01765
1900 MHz	0.00009
2100 MHz	0.02788
2300 MHz	0.00022
2600 MHz TDD	0.00023
2600 MHz FDD	0.00150
3.4 GHz	0.00158
3.8 GHz	0.00219
Others	0.04305
Total	0.13852

Location 3

Measurement time:	12:09
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00177
800 MHz	0.00930
900 MHz	0.00932
1400 MHz	0.00865
1800 MHz	0.05148
1900 MHz	0.00010
2100 MHz	0.02528
2300 MHz	0.00023
2600 MHz TDD	0.00023
2600 MHz FDD	0.00267
3.4 GHz	0.00388
3.8 GHz	0.00281
Others	0.03661
Total	0.15233

Location 4

Measurement time:	12:16
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00079
800 MHz	0.00100
900 MHz	0.00051
1400 MHz	0.00032
1800 MHz	0.00074
1900 MHz	0.00010
2100 MHz	0.00131
2300 MHz	0.00023
2600 MHz TDD	0.00024
2600 MHz FDD	0.00020
3.4 GHz	0.00117
3.8 GHz	0.00235
Others	0.03715
Total	0.04611

Location 5

Measurement time:	12:25
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00474
800 MHz	0.08585
900 MHz	0.06152
1400 MHz	0.01030
1800 MHz	0.03956
1900 MHz	0.00010
2100 MHz	0.04355
2300 MHz	0.00024
2600 MHz TDD	0.00026
2600 MHz FDD	0.00489
3.4 GHz	0.00257
3.8 GHz	0.01146
Others	0.04221
Total	0.30725

Location 6

Measurement time:	12:35
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00374
800 MHz	0.03182
900 MHz	0.03627
1400 MHz	0.00935
1800 MHz	0.04973
1900 MHz	0.00010
2100 MHz	0.03495
2300 MHz	0.00024
2600 MHz TDD	0.00025
2600 MHz FDD	0.00256
3.4 GHz	0.00247
3.8 GHz	0.00364
Others	0.04583
Total	0.22095

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.