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 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:	05/02/2025	**Time Survey completed:**	14:08
Survey address:	Carnforth LA5		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240265	17/04/2024
Probe	Agos Aria-6000 Antenna	6000-1022	22/01/2021
Cabling	1.7m cable	1383	12/10/2023

[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:	13:11
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00991
174-230 MHz	0.00750
470-694 MHz	0.00603
700 MHz	0.00745
800 MHz	0.02313
900 MHz	0.01713
1400 MHz	0.00088
1800 MHz	0.00033
1900 MHz	0.00012
2100 MHz	0.00292
2300 MHz	0.00030
2600 MHz TDD	0.00034
2600 MHz FDD	0.00080
3.4 GHz	0.00281
3.8 GHz	0.00581
Others	0.13340
Total	**0.21886**

Location 2

Measurement time:	13:19
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00979
174-230 MHz	0.00796
470-694 MHz	0.00642
700 MHz	0.00259
800 MHz	0.01097
900 MHz	0.02371
1400 MHz	0.00386
1800 MHz	0.00036
1900 MHz	0.00012
2100 MHz	0.01094
2300 MHz	0.00031
2600 MHz TDD	0.00043
2600 MHz FDD	0.00387
3.4 GHz	0.00308
3.8 GHz	0.00613
Others	0.13964
Total	**0.23019**

Location 3

Measurement time:	13:27
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00954
174-230 MHz	0.00794
470-694 MHz	0.00630
700 MHz	0.00111
800 MHz	0.00354
900 MHz	0.00414
1400 MHz	0.00049
1800 MHz	0.00035
1900 MHz	0.00013
2100 MHz	0.00646
2300 MHz	0.00031
2600 MHz TDD	0.00042
2600 MHz FDD	0.00319
3.4 GHz	0.00288
3.8 GHz	0.00626
Others	0.14200
Total	**0.19505**

Location 4

Measurement time:	13:42
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00878
174-230 MHz	0.00803
470-694 MHz	0.00641
700 MHz	0.00151
800 MHz	0.00645
900 MHz	0.00138
1400 MHz	0.00035
1800 MHz	0.00281
1900 MHz	0.00013
2100 MHz	0.00066
2300 MHz	0.00032
2600 MHz TDD	0.00036
2600 MHz FDD	0.00039
3.4 GHz	0.00293
3.8 GHz	0.00647
Others	0.14669
Total	**0.19367**

Location 5

Measurement time:	13:55
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.04750
174-230 MHz	0.00837
470-694 MHz	0.00662
700 MHz	0.00293
800 MHz	0.01731
900 MHz	0.01486
1400 MHz	0.00047
1800 MHz	0.00037
1900 MHz	0.00013
2100 MHz	0.00110
2300 MHz	0.00033
2600 MHz TDD	0.00038
2600 MHz FDD	0.00072
3.4 GHz	0.00312
3.8 GHz	0.00669
Others	0.16000
Total	**0.27090**

Location 6

Measurement time:	14:02
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01008
174-230 MHz	0.00826
470-694 MHz	0.00664
700 MHz	0.00290
800 MHz	0.01433
900 MHz	0.01781
1400 MHz	0.00070
1800 MHz	0.00038
1900 MHz	0.00013
2100 MHz	0.00227
2300 MHz	0.00033
2600 MHz TDD	0.00039
2600 MHz FDD	0.00111
3.4 GHz	0.00321
3.8 GHz	0.00683
Others	0.15191
Total	**0.22729**

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.