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:	30/04/2025	**Time Survey completed:**	13:00
Survey address:	Morecambe LA4		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072610	05/03/2025
Probe	Agos Aria-6000 Antenna	6000-1022	22/01/2021
Cabling	1.7m cable	1462	18/01/2024

[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:	12:05
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01277
174-230 MHz	0.01401
470-694 MHz	0.01069
700 MHz	0.00304
800 MHz	0.01664
900 MHz	0.01171
1400 MHz	0.00130
1800 MHz	0.00773
1900 MHz	0.00024
2100 MHz	0.00277
2300 MHz	0.00050
2600 MHz TDD	0.00044
2600 MHz FDD	0.00073
3.4 GHz	0.00290
3.8 GHz	0.00601
Others	0.18619
Total	**0.27768**

Location 2

Measurement time:	12:17
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01398
174-230 MHz	0.01553
470-694 MHz	0.01178
700 MHz	0.00508
800 MHz	0.06248
900 MHz	0.07453
1400 MHz	0.00152
1800 MHz	0.00295
1900 MHz	0.00027
2100 MHz	0.00883
2300 MHz	0.00056
2600 MHz TDD	0.00050
2600 MHz FDD	0.00124
3.4 GHz	0.00309
3.8 GHz	0.00675
Others	0.20668
Total	**0.41574**

Location 3

Measurement time:	12:26
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01488
174-230 MHz	0.01668
470-694 MHz	0.01253
700 MHz	0.00389
800 MHz	0.03158
900 MHz	0.03494
1400 MHz	0.00119
1800 MHz	0.00396
1900 MHz	0.00029
2100 MHz	0.00688
2300 MHz	0.00061
2600 MHz TDD	0.00055
2600 MHz FDD	0.00166
3.4 GHz	0.00332
3.8 GHz	0.00737
Others	0.22010
Total	**0.36042**

Location 4

Measurement time:	12:33
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01538
174-230 MHz	0.01727
470-694 MHz	0.01306
700 MHz	0.00230
800 MHz	0.03679
900 MHz	0.02459
1400 MHz	0.00342
1800 MHz	0.00158
1900 MHz	0.00030
2100 MHz	0.02024
2300 MHz	0.00063
2600 MHz TDD	0.00062
2600 MHz FDD	0.00302
3.4 GHz	0.00372
3.8 GHz	0.00785
Others	0.23186
Total	**0.38265**

Location 5

Measurement time:	12:46
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01703
174-230 MHz	0.01880
470-694 MHz	0.01402
700 MHz	0.00395
800 MHz	0.02241
900 MHz	0.01118
1400 MHz	0.00126
1800 MHz	0.00326
1900 MHz	0.00032
2100 MHz	0.00493
2300 MHz	0.00067
2600 MHz TDD	0.00060
2600 MHz FDD	0.00068
3.4 GHz	0.00380
3.8 GHz	0.00834
Others	0.26518
Total	**0.37643**

Location 6

Measurement time:	12:54
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01741
174-230 MHz	0.01930
470-694 MHz	0.01432
700 MHz	0.00601
800 MHz	0.03651
900 MHz	0.01200
1400 MHz	0.00215
1800 MHz	0.00651
1900 MHz	0.00033
2100 MHz	0.00472
2300 MHz	0.00070
2600 MHz TDD	0.00063
2600 MHz FDD	0.00134
3.4 GHz	0.00409
3.8 GHz	0.00888
Others	0.26075
Total	**0.39566**

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.