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:**	16:32
Survey address:	Lancaster LA1		

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 seven locations and are presented in the following pages of this report.

Location 1

Measurement time:	15:38
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01046
174-230 MHz	0.00980
470-694 MHz	0.00785
700 MHz	0.00348
800 MHz	0.03593
900 MHz	0.00839
1400 MHz	0.00037
1800 MHz	0.01160
1900 MHz	0.00017
2100 MHz	0.00149
2300 MHz	0.00041
2600 MHz TDD	0.00048
2600 MHz FDD	0.00067
3.4 GHz	0.00413
3.8 GHz	0.00904
Others	0.19053
Total	**0.29479**

Location 2

Measurement time:	15:45
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01034
174-230 MHz	0.00965
470-694 MHz	0.00773
700 MHz	0.00265
800 MHz	0.02141
900 MHz	0.00683
1400 MHz	0.00037
1800 MHz	0.00538
1900 MHz	0.00016
2100 MHz	0.00181
2300 MHz	0.00040
2600 MHz TDD	0.00047
2600 MHz FDD	0.00057
3.4 GHz	0.00407
3.8 GHz	0.00885
Others	0.18710
Total	**0.26778**

Location 3

Measurement time:	15:54
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01005
174-230 MHz	0.00938
470-694 MHz	0.00753
700 MHz	0.00120
800 MHz	0.00380
900 MHz	0.00465
1400 MHz	0.00035
1800 MHz	0.00085
1900 MHz	0.00016
2100 MHz	0.00174
2300 MHz	0.00039
2600 MHz TDD	0.00045
2600 MHz FDD	0.00054
3.4 GHz	0.00399
3.8 GHz	0.00853
Others	0.18069
Total	**0.23432**

Location 4

Measurement time:	16:01
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00997
174-230 MHz	0.00926
470-694 MHz	0.00743
700 MHz	0.00297
800 MHz	0.04026
900 MHz	0.02968
1400 MHz	0.00035
1800 MHz	0.00420
1900 MHz	0.00015
2100 MHz	0.00496
2300 MHz	0.00039
2600 MHz TDD	0.00044
2600 MHz FDD	0.00050
3.4 GHz	0.00373
3.8 GHz	0.00825
Others	0.17694
Total	**0.29948**

Location 5

Measurement time:	16:09
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00972
174-230 MHz	0.00921
470-694 MHz	0.00734
700 MHz	0.00635
800 MHz	0.04027
900 MHz	0.02619
1400 MHz	0.00034
1800 MHz	0.00367
1900 MHz	0.00015
2100 MHz	0.00850
2300 MHz	0.00038
2600 MHz TDD	0.00046
2600 MHz FDD	0.00102
3.4 GHz	0.00382
3.8 GHz	0.00811
Others	0.17370
Total	**0.29924**

Location 6

Measurement time:	16:17
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00973
174-230 MHz	0.00899
470-694 MHz	0.00723
700 MHz	0.01541
800 MHz	0.30669
900 MHz	0.21044
1400 MHz	0.00034
1800 MHz	0.03562
1900 MHz	0.00015
2100 MHz	0.00924
2300 MHz	0.00037
2600 MHz TDD	0.00044
2600 MHz FDD	0.00082
3.4 GHz	0.00409
3.8 GHz	0.00806
Others	0.17435
Total	**0.79197**

Location 7

Measurement time:	16:26
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00972
174-230 MHz	0.00905
470-694 MHz	0.00725
700 MHz	0.00686
800 MHz	0.09045
900 MHz	0.01068
1400 MHz	0.00033
1800 MHz	0.01622
1900 MHz	0.00015
2100 MHz	0.00141
2300 MHz	0.00037
2600 MHz TDD	0.00043
2600 MHz FDD	0.00059
3.4 GHz	0.00370
3.8 GHz	0.00792
Others	0.17035
Total	**0.33549**

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.