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:	18/01/2024	**Time Survey completed:**	11:46
Survey address:	Leeds LS9		

Measurement equipment		**Serial number**	**Calibration Date**
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY50672594	02/11/2023
Probe	Agos Aria-6000 Antenna	6000-1024	30/03/2021
Cabling	1.7m cable	1383	12/11/2023

[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 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.

Location 1

Measurement time:	11:03
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00541
174-230 MHz	0.00632
470-694 MHz	0.00543
700 MHz	0.00072
800 MHz	0.06378
900 MHz	0.22631
1400 MHz	0.00024
1800 MHz	0.00719
1900 MHz	0.00011
2100 MHz	0.03870
2300 MHz	0.01301
2600 MHz TDD	0.00021
2600 MHz FDD	0.00013
3.4 GHz	0.00135
3.8 GHz	0.00255
Others	0.08577
Total	**0.45723**

Location 2

Measurement time:	11:10
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00706
174-230 MHz	0.00667
470-694 MHz	0.00571
700 MHz	0.00080
800 MHz	0.16497
900 MHz	0.07787
1400 MHz	0.00026
1800 MHz	0.00456
1900 MHz	0.00012
2100 MHz	0.01837
2300 MHz	0.00572
2600 MHz TDD	0.00022
2600 MHz FDD	0.00024
3.4 GHz	0.00165
3.8 GHz	0.00276
Others	0.08798
Total	**0.38498**

Location 3

Measurement time:	11:17
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00648
174-230 MHz	0.00702
470-694 MHz	0.00592
700 MHz	0.00081
800 MHz	0.16665
900 MHz	0.54281
1400 MHz	0.00027
1800 MHz	0.00389
1900 MHz	0.00012
2100 MHz	0.01273
2300 MHz	0.00890
2600 MHz TDD	0.00023
2600 MHz FDD	0.00018
3.4 GHz	0.00157
3.8 GHz	0.00290
Others	0.10578
Total	**0.86627**

Location 4

Measurement time:	11:26
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00621
174-230 MHz	0.00727
470-694 MHz	0.00606
700 MHz	0.00085
800 MHz	0.06513
900 MHz	0.02978
1400 MHz	0.00032
1800 MHz	0.00800
1900 MHz	0.00013
2100 MHz	0.00718
2300 MHz	0.00777
2600 MHz TDD	0.00024
2600 MHz FDD	0.00181
3.4 GHz	0.00165
3.8 GHz	0.00312
Others	0.09475
Total	**0.24029**

Location 5

Measurement time:	11:33
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00664
174-230 MHz	0.00757
470-694 MHz	0.00625
700 MHz	0.00087
800 MHz	0.08343
900 MHz	0.07805
1400 MHz	0.00031
1800 MHz	0.00442
1900 MHz	0.00013
2100 MHz	0.01404
2300 MHz	0.00380
2600 MHz TDD	0.00025
2600 MHz FDD	0.00126
3.4 GHz	0.00179
3.8 GHz	0.00328
Others	0.09912
Total	**0.31123**

Location 6

Measurement time:	11:40
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00675
174-230 MHz	0.00773
470-694 MHz	0.00642
700 MHz	0.00104
800 MHz	0.14353
900 MHz	0.26967
1400 MHz	0.00034
1800 MHz	0.01490
1900 MHz	0.00013
2100 MHz	0.00936
2300 MHz	0.00566
2600 MHz TDD	0.00026
2600 MHz FDD	0.00160
3.4 GHz	0.00187
3.8 GHz	0.00339
Others	0.10416
Total	**0.57682**

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.