

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 floor² 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:	10/01/2025	Time Survey completed:	11:45
Survey address:	Leeds LS11		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072594	04/11/2024
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:	10:45
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00727
174-230 MHz	0.00891
470-694 MHz	0.00709
700 MHz	0.00207
800 MHz	0.02763
900 MHz	0.02620
1400 MHz	0.00957
1800 MHz	0.01472
1900 MHz	0.00015
2100 MHz	0.02792
2300 MHz	0.00565
2600 MHz TDD	0.00042
2600 MHz FDD	0.00875
3.4 GHz	0.00393
3.8 GHz	0.00389
Others	0.11393
Total	0.26810

Location 2

Measurement time:	10:55
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00751
174-230 MHz	0.00891
470-694 MHz	0.00716
700 MHz	0.00180
800 MHz	0.03308
900 MHz	0.03105
1400 MHz	0.00214
1800 MHz	0.01009
1900 MHz	0.00016
2100 MHz	0.00405
2300 MHz	0.00642
2600 MHz TDD	0.00030
2600 MHz FDD	0.00166
3.4 GHz	0.00287
3.8 GHz	0.00396
Others	0.11708
Total	0.23824

Location 3

Measurement time:	11:06
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00772
174-230 MHz	0.00907
470-694 MHz	0.00721
700 MHz	0.00105
800 MHz	0.10170
900 MHz	0.43806
1400 MHz	0.00128
1800 MHz	0.02666
1900 MHz	0.00016
2100 MHz	0.01068
2300 MHz	0.01250
2600 MHz TDD	0.00035
2600 MHz FDD	0.01993
3.4 GHz	0.00304
3.8 GHz	0.00399
Others	0.12493
Total	0.76833

Location 4

Measurement time:	11:15
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00760
174-230 MHz	0.00911
470-694 MHz	0.00731
700 MHz	0.01451
800 MHz	0.04839
900 MHz	0.14510
1400 MHz	0.01822
1800 MHz	0.01784
1900 MHz	0.00016
2100 MHz	0.01116
2300 MHz	0.00585
2600 MHz TDD	0.00033
2600 MHz FDD	0.00201
3.4 GHz	0.00350
3.8 GHz	0.00422
Others	0.12511
Total	0.42045

Location 5

Measurement time:	11:30
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00759
174-230 MHz	0.00937
470-694 MHz	0.00737
700 MHz	0.00194
800 MHz	0.00484
900 MHz	0.00458
1400 MHz	0.00248
1800 MHz	0.00641
1900 MHz	0.00016
2100 MHz	0.00455
2300 MHz	0.00446
2600 MHz TDD	0.00031
2600 MHz FDD	0.00073
3.4 GHz	0.00273
3.8 GHz	0.00409
Others	0.12022
Total	0.18182

Location 6

Measurement time:	11:39
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00786
174-230 MHz	0.00943
470-694 MHz	0.00739
700 MHz	0.00250
800 MHz	0.02212
900 MHz	0.03532
1400 MHz	0.00265
1800 MHz	0.01216
1900 MHz	0.00016
2100 MHz	0.01874
2300 MHz	0.00510
2600 MHz TDD	0.00042
2600 MHz FDD	0.00744
3.4 GHz	0.00355
3.8 GHz	0.00416
Others	0.12203
Total	0.26104

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.