

# 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)<sup>1</sup>, 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<sup>2</sup> 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%.

<b>Date of Survey:</b>	28/03/2025	<b>Time Survey completed:</b>	07:18
<b>Survey address:</b>	Leeds LS19		

Measurement equipment		Serial number	Calibration Date
<b>Meter</b>	Keysight Fieldfox N9915A Spectrum Analyser	MY50672594	04/11/2024
<b>Probe</b>	Agos Aria-6000 Antenna	6000-1024	30/03/2021
<b>Cabling</b>	1.7m cable	1383	12/11/2023

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<sup>1</sup> <https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf>

<sup>2</sup> 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

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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

<b>Measurement time:</b>	06:27
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
87.5-108 MHz	0.00718
174-230 MHz	0.00820
470-694 MHz	0.00673
700 MHz	0.01037
800 MHz	0.00268
900 MHz	0.00050
1400 MHz	0.00031
1800 MHz	0.00594
1900 MHz	0.00015
2100 MHz	0.00282
2300 MHz	0.00033
2600 MHz TDD	0.00028
2600 MHz FDD	0.00014
3.4 GHz	0.00163
3.8 GHz	0.00358
Others	0.10815
<b>Total</b>	<b>0.15898</b>

## Location 2

<b>Measurement time:</b>	06:36
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
87.5-108 MHz	0.00726
174-230 MHz	0.00848
470-694 MHz	0.00699
700 MHz	0.00153
800 MHz	0.00070
900 MHz	0.00061
1400 MHz	0.00032
1800 MHz	0.00153
1900 MHz	0.00015
2100 MHz	0.00056
2300 MHz	0.00034
2600 MHz TDD	0.00029
2600 MHz FDD	0.00014
3.4 GHz	0.00170
3.8 GHz	0.00375
Others	0.11191
<b>Total</b>	<b>0.14626</b>

### Location 3

<b>Measurement time:</b>	06:45
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
87.5-108 MHz	0.00732
174-230 MHz	0.00870
470-694 MHz	0.00701
700 MHz	0.01684
800 MHz	0.00408
900 MHz	0.00052
1400 MHz	0.00033
1800 MHz	0.00137
1900 MHz	0.00015
2100 MHz	0.00137
2300 MHz	0.00035
2600 MHz TDD	0.00029
2600 MHz FDD	0.00015
3.4 GHz	0.00196
3.8 GHz	0.00383
Others	0.11386
<b>Total</b>	<b>0.16813</b>

#### Location 4

<b>Measurement time:</b>	06:53
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
87.5-108 MHz	0.00753
174-230 MHz	0.00883
470-694 MHz	0.00717
700 MHz	0.01102
800 MHz	0.00252
900 MHz	0.00052
1400 MHz	0.00033
1800 MHz	0.00126
1900 MHz	0.00016
2100 MHz	0.00149
2300 MHz	0.00036
2600 MHz TDD	0.00030
2600 MHz FDD	0.00015
3.4 GHz	0.00191
3.8 GHz	0.00392
Others	0.11631
<b>Total</b>	<b>0.16377</b>

## Location 5

<b>Measurement time:</b>	07:02
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
87.5-108 MHz	0.00758
174-230 MHz	0.00885
470-694 MHz	0.00725
700 MHz	0.01101
800 MHz	0.00384
900 MHz	0.00055
1400 MHz	0.00034
1800 MHz	0.00110
1900 MHz	0.00016
2100 MHz	0.00101
2300 MHz	0.00036
2600 MHz TDD	0.00030
2600 MHz FDD	0.00015
3.4 GHz	0.00186
3.8 GHz	0.00396
Others	0.11779
<b>Total</b>	<b>0.16612</b>



## Location 6

<b>Measurement time:</b>	<b>07:12</b>
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
87.5-108 MHz	0.00762
174-230 MHz	0.00898
470-694 MHz	0.00723
700 MHz	0.01147
800 MHz	0.00312
900 MHz	0.00055
1400 MHz	0.00034
1800 MHz	0.00674
1900 MHz	0.00016
2100 MHz	0.00434
2300 MHz	0.00036
2600 MHz TDD	0.00030
2600 MHz FDD	0.00015
3.4 GHz	0.00184
3.8 GHz	0.00398
Others	0.11776
<b>Total</b>	<b>0.17494</b>

*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.*