

# 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>	13/01/2026	<b>Time Survey completed:</b>	13:15
<b>Survey address:</b>	Cardiff CF14		

Measurement equipment		Serial number	Calibration Date
<b>Meter</b>	Keysight Fieldfox N9915A Spectrum Analyser	MY56072619	09/12/2025
<b>Probe</b>	Agos Aria-6000 Antenna	ARIA-6000-1117	28/11/2025
<b>Cabling</b>	1.7m cable	1460	20/11/2025

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



**Location 1**

<b>Measurement time:</b>	<b>12:34</b>
<b>Frequency band</b>	<b>Percentage of the ICNIRP reference levels for general public exposure</b>
87.5-108 MHz	0.07217
174-230 MHz	0.01684
470-694 MHz	0.01256
700 MHz	0.00224
800 MHz	0.01110
900 MHz	0.02387
1400 MHz	0.00080
1800 MHz	0.00098
1900 MHz	0.00030
2100 MHz	0.00333
2300 MHz	0.00563
2600 MHz TDD	0.00053
2600 MHz FDD	0.00032
3.4 GHz	0.00296
3.8 GHz	0.00697
Others	0.20945
<b>Total</b>	<b>0.37005</b>

## Location 2

Measurement time:	12:42
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.05988
174-230 MHz	0.01657
470-694 MHz	0.01272
700 MHz	0.00213
800 MHz	0.00835
900 MHz	0.06276
1400 MHz	0.00092
1800 MHz	0.00104
1900 MHz	0.00030
2100 MHz	0.00252
2300 MHz	0.01449
2600 MHz TDD	0.00052
2600 MHz FDD	0.00033
3.4 GHz	0.00285
3.8 GHz	0.00847
Others	0.21025
<b>Total</b>	<b>0.40410</b>

### Location 3

Measurement time:	12:51
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.08778
174-230 MHz	0.01631
470-694 MHz	0.01275
700 MHz	0.00268
800 MHz	0.01075
900 MHz	0.07540
1400 MHz	0.00159
1800 MHz	0.00722
1900 MHz	0.00029
2100 MHz	0.00580
2300 MHz	0.00967
2600 MHz TDD	0.00058
2600 MHz FDD	0.00172
3.4 GHz	0.00353
3.8 GHz	0.00738
Others	0.20852
<b>Total</b>	<b>0.45198</b>

#### Location 4

Measurement time:	13:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.02220
174-230 MHz	0.01588
470-694 MHz	0.01188
700 MHz	0.00250
800 MHz	0.02911
900 MHz	0.02032
1400 MHz	0.00210
1800 MHz	0.00097
1900 MHz	0.00028
2100 MHz	0.00360
2300 MHz	0.00691
2600 MHz TDD	0.00050
2600 MHz FDD	0.00051
3.4 GHz	0.00304
3.8 GHz	0.00697
Others	0.19805
<b>Total</b>	<b>0.32481</b>

## Location 5

Measurement time:	13:09
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.06206
174-230 MHz	0.01563
470-694 MHz	0.01182
700 MHz	0.00183
800 MHz	0.00982
900 MHz	0.02142
1400 MHz	0.00082
1800 MHz	0.00093
1900 MHz	0.00028
2100 MHz	0.00289
2300 MHz	0.00507
2600 MHz TDD	0.00049
2600 MHz FDD	0.00034
3.4 GHz	0.00296
3.8 GHz	0.00646
Others	0.19434
<b>Total</b>	<b>0.33717</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.*