

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:	13/11/2025	Time Survey completed:	12:20
Survey address:	Woodstock OX20		

Measurement equipment			Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072612	28/10/2025	
Probe	Agos Aria-6000 Antenna	ARIA-6000-1117	08/07/2025	
Cabling	1.7m cable	1319	08/07/2025	

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



Location 1

Measurement time:	11:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00950
174-230 MHz	0.01071
470-694 MHz	0.00850
700 MHz	0.00115
800 MHz	0.00218
900 MHz	0.00206
1400 MHz	0.00043
1800 MHz	0.00059
1900 MHz	0.00020
2100 MHz	0.00059
2300 MHz	0.00040
2600 MHz TDD	0.00034
2600 MHz FDD	0.00020
3.4 GHz	0.00223
3.8 GHz	0.00514
Others	0.14784
Total	0.19205

Location 2

Measurement time:	11:24
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01010
174-230 MHz	0.01151
470-694 MHz	0.00902
700 MHz	0.00122
800 MHz	0.00094
900 MHz	0.00078
1400 MHz	0.00045
1800 MHz	0.00062
1900 MHz	0.00022
2100 MHz	0.00056
2300 MHz	0.00043
2600 MHz TDD	0.00037
2600 MHz FDD	0.00021
3.4 GHz	0.00243
3.8 GHz	0.00562
Others	0.15923
Total	0.20372

Location 3

Measurement time:	11:34
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01100
174-230 MHz	0.01171
470-694 MHz	0.00924
700 MHz	0.00125
800 MHz	0.00398
900 MHz	0.00185
1400 MHz	0.00047
1800 MHz	0.00064
1900 MHz	0.00022
2100 MHz	0.00062
2300 MHz	0.00044
2600 MHz TDD	0.00037
2600 MHz FDD	0.00022
3.4 GHz	0.00253
3.8 GHz	0.00584
Others	0.16498
Total	0.21538

Location 4

Measurement time:	11:41
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01060
174-230 MHz	0.01202
470-694 MHz	0.00946
700 MHz	0.00128
800 MHz	0.00249
900 MHz	0.00222
1400 MHz	0.00048
1800 MHz	0.00066
1900 MHz	0.00023
2100 MHz	0.00063
2300 MHz	0.00045
2600 MHz TDD	0.00039
2600 MHz FDD	0.00022
3.4 GHz	0.00261
3.8 GHz	0.00601
Others	0.16915
Total	0.21891

Location 5

Measurement time:	11:51
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01110
174-230 MHz	0.01222
470-694 MHz	0.00957
700 MHz	0.00130
800 MHz	0.01700
900 MHz	0.01040
1400 MHz	0.00049
1800 MHz	0.00067
1900 MHz	0.00024
2100 MHz	0.00464
2300 MHz	0.00046
2600 MHz TDD	0.00039
2600 MHz FDD	0.00023
3.4 GHz	0.00268
3.8 GHz	0.00615
Others	0.17270
Total	0.25025

Location 6

Measurement time:	11:58
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01115
174-230 MHz	0.01230
470-694 MHz	0.00961
700 MHz	0.00130
800 MHz	0.01234
900 MHz	0.00501
1400 MHz	0.00049
1800 MHz	0.00068
1900 MHz	0.00023
2100 MHz	0.00083
2300 MHz	0.00047
2600 MHz TDD	0.00040
2600 MHz FDD	0.00023
3.4 GHz	0.00270
3.8 GHz	0.00619
Others	0.17237
Total	0.23630

Location 7

Measurement time:	12:08
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01127
174-230 MHz	0.01257
470-694 MHz	0.00977
700 MHz	0.00132
800 MHz	0.00203
900 MHz	0.00168
1400 MHz	0.00050
1800 MHz	0.00069
1900 MHz	0.00024
2100 MHz	0.00079
2300 MHz	0.00047
2600 MHz TDD	0.00041
2600 MHz FDD	0.00024
3.4 GHz	0.00277
3.8 GHz	0.00636
Others	0.17722
Total	0.22832

Location 8

Measurement time:	12:14
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01119
174-230 MHz	0.01268
470-694 MHz	0.00976
700 MHz	0.00132
800 MHz	0.00288
900 MHz	0.00186
1400 MHz	0.00050
1800 MHz	0.00069
1900 MHz	0.00024
2100 MHz	0.00082
2300 MHz	0.00048
2600 MHz TDD	0.00041
2600 MHz FDD	0.00024
3.4 GHz	0.00278
3.8 GHz	0.00634
Others	0.17816
Total	0.23035

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.