

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 420 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:	10/01/2024	Time Survey completed:	13:07
Survey address:	Reading RG30		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072612	28/12/2023
Probe	Agos Aria-6000 Antenna	ARIA-6000-1117	28/11/2022
Cabling	1.7m cable	1319	28/11/2022

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.

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**		

Notes

* 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.

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.



Map data: © Google

Location 1

Measurement Time:	11:12
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00814
800 MHz	0.00483
900 MHz	0.00649
1400 MHz	0.00313
1800 MHz	0.00182
1900 MHz	0.00015
2100 MHz	0.00716
2300 MHz	0.00028
2600 MHz TDD	0.00026
2600 MHz FDD	0.00204
3.4 GHz	0.00245
3.8 GHz	0.00338
others	0.05365
total	0.09378

Location 2

Measurement Time:	11:23
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00185
800 MHz	0.00219
900 MHz	0.00095
1400 MHz	0.00087
1800 MHz	0.00179
1900 MHz	0.00016
2100 MHz	0.00220
2300 MHz	0.00030
2600 MHz TDD	0.00026
2600 MHz FDD	0.00033
3.4 GHz	0.00191
3.8 GHz	0.00368
others	0.05821
total	0.07469

Location 3

Measurement Time:	11:46
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00124
800 MHz	0.00150
900 MHz	0.00200
1400 MHz	0.00069
1800 MHz	0.00080
1900 MHz	0.00018
2100 MHz	0.00082
2300 MHz	0.00034
2600 MHz TDD	0.00029
2600 MHz FDD	0.00028
3.4 GHz	0.00194
3.8 GHz	0.00428
others	0.06668
total	0.08104

Location 4

Measurement Time:	12:05
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00354
800 MHz	0.00202
900 MHz	0.00126
1400 MHz	0.00171
1800 MHz	0.00157
1900 MHz	0.00018
2100 MHz	0.00120
2300 MHz	0.00036
2600 MHz TDD	0.00030
2600 MHz FDD	0.00021
3.4 GHz	0.00198
3.8 GHz	0.00447
others	0.06941
total	0.08822

Location 5

Measurement Time:	12:32
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00663
800 MHz	0.00302
900 MHz	0.00074
1400 MHz	0.00275
1800 MHz	0.00200
1900 MHz	0.00019
2100 MHz	0.00131
2300 MHz	0.00037
2600 MHz TDD	0.00032
2600 MHz FDD	0.00038
3.4 GHz	0.00224
3.8 GHz	0.00471
others	0.07246
total	0.09712

Location 6

Measurement Time:	12:59
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.01289
800 MHz	0.00985
900 MHz	0.00329
1400 MHz	0.00248
1800 MHz	0.00241
1900 MHz	0.00020
2100 MHz	0.00292
2300 MHz	0.00039
2600 MHz TDD	0.00035
2600 MHz FDD	0.00124
3.4 GHz	0.00286
3.8 GHz	0.00496
others	0.07583
total	0.11967

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.