

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:	18/01/2024	Time Survey completed:	12:44
Survey address:	Taunton TA2		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072612	28/09/2023
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:	11:30
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00184
800 MHz	0.08103
900 MHz	0.02954
1400 MHz	0.00032
1800 MHz	0.00258
1900 MHz	0.00015
2100 MHz	0.00577
2300 MHz	0.00029
2600 MHz TDD	0.00025
2600 MHz FDD	0.00029
3.4 GHz	0.00158
3.8 GHz	0.00365
others	0.05630
total	0.18358

Location 2

Measurement Time:	11:39
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00120
800 MHz	0.00960
900 MHz	0.00597
1400 MHz	0.00034
1800 MHz	0.00206
1900 MHz	0.00016
2100 MHz	0.00367
2300 MHz	0.00031
2600 MHz TDD	0.00027
2600 MHz FDD	0.00060
3.4 GHz	0.00168
3.8 GHz	0.00384
others	0.06038
total	0.09009

Location 3

Measurement Time:	11:49
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00121
800 MHz	0.01504
900 MHz	0.01779
1400 MHz	0.00036
1800 MHz	0.00223
1900 MHz	0.00017
2100 MHz	0.00237
2300 MHz	0.00034
2600 MHz TDD	0.00029
2600 MHz FDD	0.00074
3.4 GHz	0.00185
3.8 GHz	0.00421
others	0.06542
total	0.11202

Location 4

Measurement Time:	12:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00115
800 MHz	0.01070
900 MHz	0.00648
1400 MHz	0.00038
1800 MHz	0.00305
1900 MHz	0.00018
2100 MHz	0.00326
2300 MHz	0.00035
2600 MHz TDD	0.00030
2600 MHz FDD	0.00042
3.4 GHz	0.00194
3.8 GHz	0.00439
others	0.06799
total	0.10058

Location 5

Measurement Time:	12:26
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00135
800 MHz	0.01591
900 MHz	0.01000
1400 MHz	0.00039
1800 MHz	0.00328
1900 MHz	0.00018
2100 MHz	0.00991
2300 MHz	0.00036
2600 MHz TDD	0.00031
2600 MHz FDD	0.00174
3.4 GHz	0.00201
3.8 GHz	0.00457
others	0.07027
total	0.12027

Location 6

Measurement Time:	12:38
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00186
800 MHz	0.06293
900 MHz	0.03792
1400 MHz	0.00039
1800 MHz	0.00673
1900 MHz	0.00018
2100 MHz	0.00785
2300 MHz	0.00036
2600 MHz TDD	0.00030
2600 MHz FDD	0.00038
3.4 GHz	0.00197
3.8 GHz	0.00455
others	0.07060
total	0.19602

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.