

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:	14/03/2024	Time Survey completed:	13:06
Survey address:	Havant PO9		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072613	04/07/2023
Probe	Agos Aria-6000 Antenna	ARIA-6000-1111	28/11/2022
Cabling	1.7m cable	1313	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**		

* 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

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

Measurement time:	11:52
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00384
800 MHz	0.08227
900 MHz	0.02680
1400 MHz	0.00064
1800 MHz	0.00200
1900 MHz	0.00017
2100 MHz	0.00655
2300 MHz	0.00034
2600 MHz TDD	0.00031
2600 MHz FDD	0.00097
3.4 GHz	0.00205
3.8 GHz	0.00480
Others	0.07121
Total	0.20194

Location 2

Measurement time:	12:11
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00325
800 MHz	0.06734
900 MHz	0.04448
1400 MHz	0.00147
1800 MHz	0.00201
1900 MHz	0.00020
2100 MHz	0.00523
2300 MHz	0.00042
2600 MHz TDD	0.00037
2600 MHz FDD	0.00071
3.4 GHz	0.00250
3.8 GHz	0.00584
Others	0.08609
Total	0.21991

Location 3

Measurement time:	12:24
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00145
800 MHz	0.00258
900 MHz	0.00176
1400 MHz	0.00058
1800 MHz	0.00103
1900 MHz	0.00021
2100 MHz	0.00103
2300 MHz	0.00046
2600 MHz TDD	0.00039
2600 MHz FDD	0.00031
3.4 GHz	0.00265
3.8 GHz	0.00629
Others	0.09247
Total	0.11122

Location 4

Measurement time:	12:35
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00316
800 MHz	0.01882
900 MHz	0.01661
1400 MHz	0.00075
1800 MHz	0.00568
1900 MHz	0.00022
2100 MHz	0.00261
2300 MHz	0.00047
2600 MHz TDD	0.00041
2600 MHz FDD	0.00098
3.4 GHz	0.00283
3.8 GHz	0.00663
Others	0.09674
Total	0.15591

Location 5

Measurement time:	12:50
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00181
800 MHz	0.01791
900 MHz	0.00790
1400 MHz	0.00068
1800 MHz	0.00229
1900 MHz	0.00022
2100 MHz	0.00304
2300 MHz	0.00046
2600 MHz TDD	0.00041
2600 MHz FDD	0.00069
3.4 GHz	0.00283
3.8 GHz	0.00662
Others	0.09654
Total	0.14139

Location 6

Measurement time:	13:00
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.00549
800 MHz	0.07621
900 MHz	0.04260
1400 MHz	0.00092
1800 MHz	0.00272
1900 MHz	0.00023
2100 MHz	0.00484
2300 MHz	0.00048
2600 MHz TDD	0.00042
2600 MHz FDD	0.00094
3.4 GHz	0.00289
3.8 GHz	0.00680
Others	0.09916
Total	0.24370

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.