

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:	01/05/2025	Time Survey completed:	12:11
Survey address:	Gosport PO13		

Measurement equipment			Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072597	24/05/2024	
Probe	Agos Aria-6000 Antenna	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.

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



Location 1

Measurement time:	11:15
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01058
174-230 MHz	0.01157
470-694 MHz	0.00905
700 MHz	0.00343
800 MHz	0.00193
900 MHz	0.00108
1400 MHz	0.00403
1800 MHz	0.00268
1900 MHz	0.00023
2100 MHz	0.00167
2300 MHz	0.00046
2600 MHz TDD	0.00040
2600 MHz FDD	0.00021
3.4 GHz	0.00252
3.8 GHz	0.00454
Others	0.14887
Total	0.20325

Location 2

Measurement time:	11:23
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01127
174-230 MHz	0.01253
470-694 MHz	0.00965
700 MHz	0.00516
800 MHz	0.01645
900 MHz	0.01645
1400 MHz	0.00681
1800 MHz	0.00535
1900 MHz	0.00025
2100 MHz	0.00294
2300 MHz	0.00050
2600 MHz TDD	0.00044
2600 MHz FDD	0.00044
3.4 GHz	0.00331
3.8 GHz	0.00501
Others	0.16250
Total	0.25905

Location 3

Measurement time:	11:33
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01197
174-230 MHz	0.01352
470-694 MHz	0.01033
700 MHz	0.00197
800 MHz	0.00787
900 MHz	0.00416
1400 MHz	0.00090
1800 MHz	0.00104
1900 MHz	0.00026
2100 MHz	0.00237
2300 MHz	0.00054
2600 MHz TDD	0.00051
2600 MHz FDD	0.00138
3.4 GHz	0.00315
3.8 GHz	0.00556
Others	0.17693
Total	0.24246

Location 4

Measurement time:	11:43
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01307
174-230 MHz	0.01439
470-694 MHz	0.01099
700 MHz	0.00485
800 MHz	0.00674
900 MHz	0.00425
1400 MHz	0.00361
1800 MHz	0.00570
1900 MHz	0.00029
2100 MHz	0.00241
2300 MHz	0.00058
2600 MHz TDD	0.00052
2600 MHz FDD	0.00034
3.4 GHz	0.00355
3.8 GHz	0.00606
Others	0.19037
Total	0.26771

Location 5

Measurement time:	11:55
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01395
174-230 MHz	0.01550
470-694 MHz	0.01170
700 MHz	0.00772
800 MHz	0.00342
900 MHz	0.00164
1400 MHz	0.01143
1800 MHz	0.01099
1900 MHz	0.00030
2100 MHz	0.00332
2300 MHz	0.00062
2600 MHz TDD	0.00055
2600 MHz FDD	0.00031
3.4 GHz	0.00353
3.8 GHz	0.00660
Others	0.20544
Total	0.29703

Location 6

Measurement time:	12:05
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01474
174-230 MHz	0.01613
470-694 MHz	0.01212
700 MHz	0.00592
800 MHz	0.00267
900 MHz	0.00158
1400 MHz	0.00455
1800 MHz	0.00442
1900 MHz	0.00032
2100 MHz	0.00191
2300 MHz	0.00065
2600 MHz TDD	0.00057
2600 MHz FDD	0.00032
3.4 GHz	0.00365
3.8 GHz	0.00696
Others	0.21447
Total	0.29098

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.