

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:	11:06
Survey address:	Brompton DL6		

Measurement equipment			Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY50672594	04/11/2024	
Probe	Agos Aria-6000 Antenna	6000-1024	30/03/2021	
Cabling	1.7m cable	1383	12/11/2023	

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:	09:44
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00741
174-230 MHz	0.00879
470-694 MHz	0.00724
700 MHz	0.00827
800 MHz	0.00835
900 MHz	0.00051
1400 MHz	0.00033
1800 MHz	0.00828
1900 MHz	0.00015
2100 MHz	0.00069
2300 MHz	0.00036
2600 MHz TDD	0.00030
2600 MHz FDD	0.00018
3.4 GHz	0.00165
3.8 GHz	0.00389
Others	0.11558
Total	0.17198

Location 2

Measurement time:	09:53
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00836
174-230 MHz	0.00975
470-694 MHz	0.00787
700 MHz	0.03367
800 MHz	0.03218
900 MHz	0.00057
1400 MHz	0.00037
1800 MHz	0.01208
1900 MHz	0.00017
2100 MHz	0.00064
2300 MHz	0.00041
2600 MHz TDD	0.00033
2600 MHz FDD	0.00018
3.4 GHz	0.00185
3.8 GHz	0.00436
Others	0.12792
Total	0.24070

Location 3

Measurement time:	10:24
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01032
174-230 MHz	0.01192
470-694 MHz	0.00933
700 MHz	0.00247
800 MHz	0.00578
900 MHz	0.00064
1400 MHz	0.00045
1800 MHz	0.00673
1900 MHz	0.00021
2100 MHz	0.00079
2300 MHz	0.00049
2600 MHz TDD	0.00041
2600 MHz FDD	0.00023
3.4 GHz	0.00239
3.8 GHz	0.00562
Others	0.15972
Total	0.21752

Location 4

Measurement time:	10:37
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01093
174-230 MHz	0.01290
470-694 MHz	0.00992
700 MHz	0.00217
800 MHz	0.00913
900 MHz	0.00076
1400 MHz	0.00048
1800 MHz	0.00572
1900 MHz	0.00023
2100 MHz	0.00083
2300 MHz	0.00054
2600 MHz TDD	0.00045
2600 MHz FDD	0.00036
3.4 GHz	0.00261
3.8 GHz	0.00612
Others	0.17270
Total	0.23586

Location 5

Measurement time:	10:46
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01135
174-230 MHz	0.01313
470-694 MHz	0.01038
700 MHz	0.00137
800 MHz	0.00105
900 MHz	0.00085
1400 MHz	0.00050
1800 MHz	0.00150
1900 MHz	0.00024
2100 MHz	0.00084
2300 MHz	0.00056
2600 MHz TDD	0.00046
2600 MHz FDD	0.00025
3.4 GHz	0.00269
3.8 GHz	0.00632
Others	0.17727
Total	0.22876

Location 6

Measurement time:	11:00
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01146
174-230 MHz	0.01320
470-694 MHz	0.01017
700 MHz	0.00532
800 MHz	0.01359
900 MHz	0.00071
1400 MHz	0.00051
1800 MHz	0.00364
1900 MHz	0.00024
2100 MHz	0.00085
2300 MHz	0.00056
2600 MHz TDD	0.00047
2600 MHz FDD	0.00026
3.4 GHz	0.00273
3.8 GHz	0.00639
Others	0.17978
Total	0.24987

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.