

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:	19/12/2024	Time Survey completed:	13:32
Survey address:	Crawley RH11		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY58311497	23/05/2024
Probe	Agos Aria-6000 Antenna	ARIA-6000-1023	22/01/2021
Cabling	1.7m cable	1407	23/11/2023

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 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:	12:43
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00582
174-230 MHz	0.00663
470-694 MHz	0.00540
700 MHz	0.00177
800 MHz	0.02834
900 MHz	0.00836
1400 MHz	0.00646
1800 MHz	0.01774
1900 MHz	0.00012
2100 MHz	0.02696
2300 MHz	0.00027
2600 MHz TDD	0.00022
2600 MHz FDD	0.00011
3.4 GHz	0.00212
3.8 GHz	0.00292
Others	0.08737
Total	0.20060

Location 2

Measurement time:	12:52
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00611
174-230 MHz	0.00695
470-694 MHz	0.00560
700 MHz	0.00215
800 MHz	0.03577
900 MHz	0.00940
1400 MHz	0.00725
1800 MHz	0.01152
1900 MHz	0.00013
2100 MHz	0.00672
2300 MHz	0.00028
2600 MHz TDD	0.00023
2600 MHz FDD	0.00012
3.4 GHz	0.00223
3.8 GHz	0.00309
Others	0.09187
Total	0.18940

Location 3

Measurement time:	13:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00625
174-230 MHz	0.00713
470-694 MHz	0.00577
700 MHz	0.00165
800 MHz	0.00457
900 MHz	0.00203
1400 MHz	0.00585
1800 MHz	0.00720
1900 MHz	0.00013
2100 MHz	0.00351
2300 MHz	0.00029
2600 MHz TDD	0.00024
2600 MHz FDD	0.00012
3.4 GHz	0.00689
3.8 GHz	0.00324
Others	0.09465
Total	0.14952

Location 4

Measurement time:	13:08
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00653
174-230 MHz	0.00732
470-694 MHz	0.00587
700 MHz	0.00326
800 MHz	0.01624
900 MHz	0.00718
1400 MHz	0.00737
1800 MHz	0.01165
1900 MHz	0.00013
2100 MHz	0.00859
2300 MHz	0.00030
2600 MHz TDD	0.00025
2600 MHz FDD	0.00012
3.4 GHz	0.01915
3.8 GHz	0.00346
Others	0.09701
Total	0.19444

Location 5

Measurement time:	13:19
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00641
174-230 MHz	0.00731
470-694 MHz	0.00589
700 MHz	0.00145
800 MHz	0.02726
900 MHz	0.00553
1400 MHz	0.00455
1800 MHz	0.00695
1900 MHz	0.00013
2100 MHz	0.01878
2300 MHz	0.00030
2600 MHz TDD	0.00025
2600 MHz FDD	0.00012
3.4 GHz	0.00234
3.8 GHz	0.00333
Others	0.09735
Total	0.18796

Location 6

Measurement time:	13:26
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00655
174-230 MHz	0.00727
470-694 MHz	0.00588
700 MHz	0.00363
800 MHz	0.05953
900 MHz	0.00680
1400 MHz	0.00448
1800 MHz	0.01517
1900 MHz	0.00013
2100 MHz	0.02285
2300 MHz	0.00030
2600 MHz TDD	0.00025
2600 MHz FDD	0.00012
3.4 GHz	0.00260
3.8 GHz	0.00331
Others	0.09732
Total	0.23619

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.