

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:	25/07/2025	Time Survey completed:	15:16
Survey address:	Whitehaven CA28		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240265	07/04/2025
Probe	Agos Aria-6000 Antenna	6000-1022	08/07/2025
Cabling	1.7m cable	1462	18/01/2024

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:	14:30
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00962
174-230 MHz	0.00901
470-694 MHz	0.00723
700 MHz	0.00136
800 MHz	0.01353
900 MHz	0.04753
1400 MHz	0.00036
1800 MHz	0.00063
1900 MHz	0.00016
2100 MHz	0.00743
2300 MHz	0.00041
2600 MHz TDD	0.00048
2600 MHz FDD	0.00077
3.4 GHz	0.00425
3.8 GHz	0.00941
Others	0.19138
Total	0.30357

Location 2

Measurement time:	14:37
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00994
174-230 MHz	0.00914
470-694 MHz	0.00722
700 MHz	0.00098
800 MHz	0.00436
900 MHz	0.06248
1400 MHz	0.00036
1800 MHz	0.00047
1900 MHz	0.00016
2100 MHz	0.00595
2300 MHz	0.00041
2600 MHz TDD	0.00051
2600 MHz FDD	0.00174
3.4 GHz	0.00413
3.8 GHz	0.00939
Others	0.19232
Total	0.30956

Location 3

Measurement time:	14:45
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00972
174-230 MHz	0.00909
470-694 MHz	0.00743
700 MHz	0.00102
800 MHz	0.03447
900 MHz	0.01864
1400 MHz	0.00036
1800 MHz	0.00061
1900 MHz	0.00016
2100 MHz	0.02191
2300 MHz	0.00041
2600 MHz TDD	0.00051
2600 MHz FDD	0.00186
3.4 GHz	0.00451
3.8 GHz	0.00952
Others	0.19036
Total	0.31057

Location 4

Measurement time:	14:52
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00959
174-230 MHz	0.00890
470-694 MHz	0.00725
700 MHz	0.00109
800 MHz	0.04427
900 MHz	0.05516
1400 MHz	0.00035
1800 MHz	0.00077
1900 MHz	0.00016
2100 MHz	0.00396
2300 MHz	0.00040
2600 MHz TDD	0.00047
2600 MHz FDD	0.00081
3.4 GHz	0.00410
3.8 GHz	0.00909
Others	0.18479
Total	0.33118

Location 5

Measurement time:	15:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00923
174-230 MHz	0.00858
470-694 MHz	0.00690
700 MHz	0.00097
800 MHz	0.00545
900 MHz	0.01278
1400 MHz	0.00034
1800 MHz	0.00052
1900 MHz	0.00015
2100 MHz	0.00257
2300 MHz	0.00039
2600 MHz TDD	0.00046
2600 MHz FDD	0.00070
3.4 GHz	0.00395
3.8 GHz	0.00869
Others	0.17915
Total	0.24083

Location 6

Measurement time:	15:10
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00936
174-230 MHz	0.00869
470-694 MHz	0.00693
700 MHz	0.00115
800 MHz	0.01537
900 MHz	0.02167
1400 MHz	0.00034
1800 MHz	0.00063
1900 MHz	0.00016
2100 MHz	0.00657
2300 MHz	0.00039
2600 MHz TDD	0.00046
2600 MHz FDD	0.00097
3.4 GHz	0.00406
3.8 GHz	0.00886
Others	0.17980
Total	0.26540

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.