

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:	20/01/2026	Time Survey completed:	15:46
Survey address:	Carlisle CA2		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240265	31/10/2025
Probe	Agos Aria-6000 Antenna	ARIA-6000-1022	08/07/2025
Cabling	1.7m cable	1405	08/07/2025

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:	14:51
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00755
174-230 MHz	0.00648
470-694 MHz	0.00510
700 MHz	0.00065
800 MHz	0.08217
900 MHz	0.07885
1400 MHz	0.00022
1800 MHz	0.00955
1900 MHz	0.00009
2100 MHz	0.01081
2300 MHz	0.00020
2600 MHz TDD	0.00020
2600 MHz FDD	0.00012
3.4 GHz	0.00076
3.8 GHz	0.00182
Others	0.08233
Total	0.28689

Location 2

Measurement time:	14:59
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00742
174-230 MHz	0.00664
470-694 MHz	0.00525
700 MHz	0.00070
800 MHz	0.36380
900 MHz	0.23286
1400 MHz	0.00022
1800 MHz	0.01604
1900 MHz	0.00009
2100 MHz	0.01806
2300 MHz	0.00020
2600 MHz TDD	0.00021
2600 MHz FDD	0.00063
3.4 GHz	0.00089
3.8 GHz	0.00197
Others	0.08724
Total	0.74222

Location 3

Measurement time:	15:09
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00783
174-230 MHz	0.00685
470-694 MHz	0.00543
700 MHz	0.00070
800 MHz	0.08712
900 MHz	0.04469
1400 MHz	0.00024
1800 MHz	0.00108
1900 MHz	0.00009
2100 MHz	0.00957
2300 MHz	0.00022
2600 MHz TDD	0.00022
2600 MHz FDD	0.00011
3.4 GHz	0.00082
3.8 GHz	0.00199
Others	0.08806
Total	0.25501

Location 4

Measurement time:	15:24
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00783
174-230 MHz	0.00711
470-694 MHz	0.00559
700 MHz	0.00074
800 MHz	0.13266
900 MHz	0.03134
1400 MHz	0.00024
1800 MHz	0.07386
1900 MHz	0.00009
2100 MHz	0.02125
2300 MHz	0.00023
2600 MHz TDD	0.00023
2600 MHz FDD	0.00017
3.4 GHz	0.00087
3.8 GHz	0.00208
Others	0.09104
Total	0.37532

Location 5

Measurement time:	15:32
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00859
174-230 MHz	0.00717
470-694 MHz	0.00561
700 MHz	0.00074
800 MHz	0.26829
900 MHz	0.07884
1400 MHz	0.00024
1800 MHz	0.00510
1900 MHz	0.00010
2100 MHz	0.01945
2300 MHz	0.00023
2600 MHz TDD	0.00023
2600 MHz FDD	0.00012
3.4 GHz	0.00087
3.8 GHz	0.00210
Others	0.09274
Total	0.49042

Location 6

Measurement time:	15:40
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00812
174-230 MHz	0.00722
470-694 MHz	0.00568
700 MHz	0.00074
800 MHz	0.16990
900 MHz	0.17727
1400 MHz	0.00025
1800 MHz	0.01572
1900 MHz	0.00010
2100 MHz	0.00837
2300 MHz	0.00023
2600 MHz TDD	0.00024
2600 MHz FDD	0.00015
3.4 GHz	0.00089
3.8 GHz	0.00213
Others	0.09547
Total	0.49249

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.