

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:	11/12/2025	Time Survey completed:	14:23
Survey address:	Carlisle CA3		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240265	31/10/2025
Probe	Agos Aria-6000 Antenna	AGOS-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:	13:31
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01036
174-230 MHz	0.00925
470-694 MHz	0.00729
700 MHz	0.00159
800 MHz	0.03785
900 MHz	0.07863
1400 MHz	0.01693
1800 MHz	0.00069
1900 MHz	0.00013
2100 MHz	0.01169
2300 MHz	0.00123
2600 MHz TDD	0.00039
2600 MHz FDD	0.00206
3.4 GHz	0.00138
3.8 GHz	0.00302
Others	0.12339
Total	0.30589

Location 2

Measurement time:	13:40
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01041
174-230 MHz	0.00920
470-694 MHz	0.00719
700 MHz	0.00179
800 MHz	0.01362
900 MHz	0.05610
1400 MHz	0.00492
1800 MHz	0.00642
1900 MHz	0.00013
2100 MHz	0.00433
2300 MHz	0.00110
2600 MHz TDD	0.00033
2600 MHz FDD	0.00050
3.4 GHz	0.00128
3.8 GHz	0.00299
Others	0.11950
Total	0.23980

Location 3

Measurement time:	13:49
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01021
174-230 MHz	0.00904
470-694 MHz	0.00701
700 MHz	0.00203
800 MHz	0.03486
900 MHz	0.04236
1400 MHz	0.00145
1800 MHz	0.01381
1900 MHz	0.00013
2100 MHz	0.00237
2300 MHz	0.00156
2600 MHz TDD	0.00035
2600 MHz FDD	0.00205
3.4 GHz	0.00132
3.8 GHz	0.00297
Others	0.11703
Total	0.24855

Location 4

Measurement time:	13:56
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01087
174-230 MHz	0.00883
470-694 MHz	0.00695
700 MHz	0.00135
800 MHz	0.01228
900 MHz	0.01518
1400 MHz	0.00119
1800 MHz	0.00599
1900 MHz	0.00012
2100 MHz	0.00292
2300 MHz	0.00059
2600 MHz TDD	0.00031
2600 MHz FDD	0.00058
3.4 GHz	0.00128
3.8 GHz	0.00284
Others	0.11489
Total	0.18616

Location 5

Measurement time:	14:06
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01220
174-230 MHz	0.00877
470-694 MHz	0.00687
700 MHz	0.00110
800 MHz	0.00167
900 MHz	0.00219
1400 MHz	0.00062
1800 MHz	0.00282
1900 MHz	0.00012
2100 MHz	0.00252
2300 MHz	0.00057
2600 MHz TDD	0.00031
2600 MHz FDD	0.00051
3.4 GHz	0.00116
3.8 GHz	0.00275
Others	0.11179
Total	0.15597

Location 6

Measurement time:	14:17
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00955
174-230 MHz	0.00853
470-694 MHz	0.00667
700 MHz	0.00264
800 MHz	0.04393
900 MHz	0.04726
1400 MHz	0.00588
1800 MHz	0.00075
1900 MHz	0.00012
2100 MHz	0.02122
2300 MHz	0.00156
2600 MHz TDD	0.00031
2600 MHz FDD	0.00092
3.4 GHz	0.00127
3.8 GHz	0.00267
Others	0.10967
Total	0.26295

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.