

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:	21/10/2025	Time Survey completed:	10:49
Survey address:	St Albans AL4		

Measurement equipment			Serial number	Calibration Date
Meter	Keysight Fieldfox N9915B Spectrum Analyser	MY59221931	13/08/2025	
Probe	Agos Aria-6000 Antenna	1111	08/07/2025	
Cabling	1.7m cable	1313	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:	10:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00236
174-230 MHz	0.00190
470-694 MHz	0.00173
700 MHz	0.07104
800 MHz	0.06084
900 MHz	0.01279
1400 MHz	0.00213
1800 MHz	0.01249
1900 MHz	0.00004
2100 MHz	0.00721
2300 MHz	0.00008
2600 MHz TDD	0.00008
2600 MHz FDD	0.00048
3.4 GHz	0.00078
3.8 GHz	0.00112
Others	0.03188
Total	0.20695

Location 2

Measurement time:	10:10
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00232
174-230 MHz	0.00188
470-694 MHz	0.00173
700 MHz	0.00386
800 MHz	0.01190
900 MHz	0.00895
1400 MHz	0.00055
1800 MHz	0.00283
1900 MHz	0.00004
2100 MHz	0.00348
2300 MHz	0.00008
2600 MHz TDD	0.00008
2600 MHz FDD	0.00028
3.4 GHz	0.00070
3.8 GHz	0.00112
Others	0.03143
Total	0.07124

Location 3

Measurement time:	10:17
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00233
174-230 MHz	0.00191
470-694 MHz	0.00173
700 MHz	0.01168
800 MHz	0.03472
900 MHz	0.01825
1400 MHz	0.00468
1800 MHz	0.03335
1900 MHz	0.00004
2100 MHz	0.00604
2300 MHz	0.00008
2600 MHz TDD	0.00008
2600 MHz FDD	0.00171
3.4 GHz	0.00077
3.8 GHz	0.00112
Others	0.03194
Total	0.15044

Location 4

Measurement time:	10:26
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00291
174-230 MHz	0.00219
470-694 MHz	0.00177
700 MHz	0.00671
800 MHz	0.05410
900 MHz	0.03178
1400 MHz	0.00104
1800 MHz	0.00334
1900 MHz	0.00004
2100 MHz	0.00171
2300 MHz	0.00009
2600 MHz TDD	0.00008
2600 MHz FDD	0.00075
3.4 GHz	0.00067
3.8 GHz	0.00113
Others	0.03839
Total	0.14669

Location 5

Measurement time:	10:34
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00236
174-230 MHz	0.00193
470-694 MHz	0.00175
700 MHz	0.00521
800 MHz	0.00698
900 MHz	0.03441
1400 MHz	0.00143
1800 MHz	0.00442
1900 MHz	0.00004
2100 MHz	0.00786
2300 MHz	0.00009
2600 MHz TDD	0.00008
2600 MHz FDD	0.00057
3.4 GHz	0.00087
3.8 GHz	0.00114
Others	0.03216
Total	0.10129

Location 6

Measurement time:	10:43
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00240
174-230 MHz	0.00193
470-694 MHz	0.00175
700 MHz	0.06453
800 MHz	0.08105
900 MHz	0.01906
1400 MHz	0.00221
1800 MHz	0.01211
1900 MHz	0.00004
2100 MHz	0.01093
2300 MHz	0.00008
2600 MHz TDD	0.00008
2600 MHz FDD	0.00059
3.4 GHz	0.00077
3.8 GHz	0.00114
Others	0.03225
Total	0.23093

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.