

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:	16/07/2025	Time Survey completed:	11:28
Survey address:	Kilmarnock KA1		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	57271744	26/03/2025
Probe	Agos Aria-6000 Antenna	1089	31/12/2023
Cabling	1.7m cable	1406	14/05/2025

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 five locations and are presented in the following pages of this report.



Location 1

Measurement time:	10:40
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00950
174-230 MHz	0.01099
470-694 MHz	0.00982
700 MHz	0.00130
800 MHz	0.01140
900 MHz	0.01030
1400 MHz	0.00047
1800 MHz	0.00064
1900 MHz	0.00022
2100 MHz	0.00777
2300 MHz	0.00046
2600 MHz TDD	0.00035
2600 MHz FDD	0.00012
3.4 GHz	0.00122
3.8 GHz	0.00291
Others	0.12769
Total	0.19514

Location 2

Measurement time:	10:46
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01001
174-230 MHz	0.01135
470-694 MHz	0.01009
700 MHz	0.00135
800 MHz	0.02676
900 MHz	0.02982
1400 MHz	0.00049
1800 MHz	0.00067
1900 MHz	0.00023
2100 MHz	0.03997
2300 MHz	0.00047
2600 MHz TDD	0.00037
2600 MHz FDD	0.00012
3.4 GHz	0.00129
3.8 GHz	0.00307
Others	0.13341
Total	0.26947

Location 3

Measurement time:	10:55
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01028
174-230 MHz	0.01181
470-694 MHz	0.01049
700 MHz	0.00140
800 MHz	0.01542
900 MHz	0.00427
1400 MHz	0.00051
1800 MHz	0.00078
1900 MHz	0.00023
2100 MHz	0.00330
2300 MHz	0.00049
2600 MHz TDD	0.00038
2600 MHz FDD	0.00014
3.4 GHz	0.00137
3.8 GHz	0.00324
Others	0.13868
Total	0.20279

Location 4

Measurement time:	11:12
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01192
174-230 MHz	0.01267
470-694 MHz	0.01120
700 MHz	0.00151
800 MHz	0.27306
900 MHz	0.06566
1400 MHz	0.00056
1800 MHz	0.00075
1900 MHz	0.00025
2100 MHz	0.01884
2300 MHz	0.00053
2600 MHz TDD	0.00041
2600 MHz FDD	0.00014
3.4 GHz	0.00150
3.8 GHz	0.00362
Others	0.15176
Total	0.55439

Location 5

Measurement time:	11:22
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01162
174-230 MHz	0.01317
470-694 MHz	0.01157
700 MHz	0.00153
800 MHz	0.02062
900 MHz	0.01055
1400 MHz	0.00058
1800 MHz	0.00076
1900 MHz	0.00027
2100 MHz	0.01262
2300 MHz	0.00056
2600 MHz TDD	0.00043
2600 MHz FDD	0.00015
3.4 GHz	0.00161
3.8 GHz	0.00381
Others	0.15734
Total	0.24718

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.