

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:	17/07/2025	Time Survey completed:	12:35
Survey address:	St Andrews KY16		

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



Location 1

Measurement time:	11:46
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00970
174-230 MHz	0.01133
470-694 MHz	0.01010
700 MHz	0.01163
800 MHz	0.03731
900 MHz	0.03978
1400 MHz	0.00049
1800 MHz	0.00065
1900 MHz	0.00022
2100 MHz	0.00300
2300 MHz	0.00157
2600 MHz TDD	0.00037
2600 MHz FDD	0.00047
3.4 GHz	0.00126
3.8 GHz	0.00321
Others	0.13196
Total	0.26305

Location 2

Measurement time:	11:55
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01048
174-230 MHz	0.01186
470-694 MHz	0.01055
700 MHz	0.01236
800 MHz	0.16198
900 MHz	0.02733
1400 MHz	0.00051
1800 MHz	0.00069
1900 MHz	0.00023
2100 MHz	0.00467
2300 MHz	0.00220
2600 MHz TDD	0.00039
2600 MHz FDD	0.00074
3.4 GHz	0.00137
3.8 GHz	0.00344
Others	0.14050
Total	0.38930

Location 3

Measurement time:	12:03
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01075
174-230 MHz	0.01253
470-694 MHz	0.01091
700 MHz	0.00681
800 MHz	0.01306
900 MHz	0.01505
1400 MHz	0.00054
1800 MHz	0.00074
1900 MHz	0.00025
2100 MHz	0.00178
2300 MHz	0.00099
2600 MHz TDD	0.00041
2600 MHz FDD	0.00020
3.4 GHz	0.00146
3.8 GHz	0.00365
Others	0.14727
Total	0.22639

Location 4

Measurement time:	12:11
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01119
174-230 MHz	0.01281
470-694 MHz	0.01115
700 MHz	0.00819
800 MHz	0.01179
900 MHz	0.00880
1400 MHz	0.00055
1800 MHz	0.00074
1900 MHz	0.00026
2100 MHz	0.00162
2300 MHz	0.00158
2600 MHz TDD	0.00042
2600 MHz FDD	0.00032
3.4 GHz	0.00151
3.8 GHz	0.00392
Others	0.15232
Total	0.22717

Location 5

Measurement time:	12:19
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01150
174-230 MHz	0.01322
470-694 MHz	0.01140
700 MHz	0.00558
800 MHz	0.01131
900 MHz	0.02366
1400 MHz	0.00056
1800 MHz	0.00076
1900 MHz	0.00026
2100 MHz	0.01866
2300 MHz	0.00498
2600 MHz TDD	0.00047
2600 MHz FDD	0.00237
3.4 GHz	0.00156
3.8 GHz	0.00390
Others	0.15606
Total	0.26626

Location 6

Measurement time:	12:29
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01175
174-230 MHz	0.01353
470-694 MHz	0.01159
700 MHz	0.00417
800 MHz	0.02518
900 MHz	0.04037
1400 MHz	0.00058
1800 MHz	0.00077
1900 MHz	0.00027
2100 MHz	0.00261
2300 MHz	0.00206
2600 MHz TDD	0.00044
2600 MHz FDD	0.00053
3.4 GHz	0.00162
3.8 GHz	0.00420
Others	0.15861
Total	0.27827

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.