

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:	28/03/2025	Time Survey completed:	10:56
Survey address:	St Ives PE27		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072589	11/12/2024
Probe	Agos Aria-6000 Antenna	6000-1157	25/09/2023
Cabling	1.7m cable	1379	25/09/2023

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:	10:15
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00883
174-230 MHz	0.01015
470-694 MHz	0.00802
700 MHz	0.01357
800 MHz	0.00609
900 MHz	0.01426
1400 MHz	0.00199
1800 MHz	0.00081
1900 MHz	0.00017
2100 MHz	0.00264
2300 MHz	0.00064
2600 MHz TDD	0.00033
2600 MHz FDD	0.00014
3.4 GHz	0.00176
3.8 GHz	0.00451
Others	0.12648
Total	0.20040

Location 2

Measurement time:	10:24
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00928
174-230 MHz	0.01052
470-694 MHz	0.00829
700 MHz	0.01497
800 MHz	0.01796
900 MHz	0.01382
1400 MHz	0.00677
1800 MHz	0.00111
1900 MHz	0.00018
2100 MHz	0.00459
2300 MHz	0.00099
2600 MHz TDD	0.00034
2600 MHz FDD	0.00015
3.4 GHz	0.00209
3.8 GHz	0.00475
Others	0.13235
Total	0.22818

Location 3

Measurement time:	10:32
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00958
174-230 MHz	0.01092
470-694 MHz	0.00856
700 MHz	0.01908
800 MHz	0.01354
900 MHz	0.01304
1400 MHz	0.01457
1800 MHz	0.00317
1900 MHz	0.00019
2100 MHz	0.00416
2300 MHz	0.00203
2600 MHz TDD	0.00036
2600 MHz FDD	0.00015
3.4 GHz	0.00308
3.8 GHz	0.00600
Others	0.13744
Total	0.24588

Location 4

Measurement time:	10:41
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00956
174-230 MHz	0.01082
470-694 MHz	0.00860
700 MHz	0.04140
800 MHz	0.01573
900 MHz	0.00607
1400 MHz	0.00650
1800 MHz	0.00188
1900 MHz	0.00019
2100 MHz	0.00185
2300 MHz	0.00080
2600 MHz TDD	0.00035
2600 MHz FDD	0.00015
3.4 GHz	0.00239
3.8 GHz	0.00535
Others	0.13734
Total	0.24898

Location 5

Measurement time:	10:50
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00996
174-230 MHz	0.01119
470-694 MHz	0.00887
700 MHz	0.01698
800 MHz	0.00753
900 MHz	0.01453
1400 MHz	0.00248
1800 MHz	0.00107
1900 MHz	0.00020
2100 MHz	0.00208
2300 MHz	0.00069
2600 MHz TDD	0.00037
2600 MHz FDD	0.00016
3.4 GHz	0.00234
3.8 GHz	0.00583
Others	0.14261
Total	0.22688

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.