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 floor[2] 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:	25/02/2025	**Time Survey completed:**	10:40
Survey address:	Thornton FY5		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072593	06/03/2024
Probe	Agos Aria-6000 Antenna	6000-1022	22/01/2021
Cabling	1.7m cable	1383	12/10/2023

[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 420 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:	09:52
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00852
174-230 MHz	0.00980
470-694 MHz	0.00780
700 MHz	0.00114
800 MHz	0.03038
900 MHz	0.03999
1400 MHz	0.00038
1800 MHz	0.00174
1900 MHz	0.00018
2100 MHz	0.00665
2300 MHz	0.00080
2600 MHz TDD	0.00034
2600 MHz FDD	0.00016
3.4 GHz	0.00204
3.8 GHz	0.00427
Others	0.12757
Total	**0.24176**

Location 2

Measurement time:	10:00
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00888
174-230 MHz	0.01012
470-694 MHz	0.00800
700 MHz	0.00111
800 MHz	0.00293
900 MHz	0.02027
1400 MHz	0.00039
1800 MHz	0.00093
1900 MHz	0.00019
2100 MHz	0.01098
2300 MHz	0.00073
2600 MHz TDD	0.00036
2600 MHz FDD	0.00017
3.4 GHz	0.00203
3.8 GHz	0.00444
Others	0.13200
Total	**0.20354**

Location 3

Measurement time:	10:08
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00911
174-230 MHz	0.01040
470-694 MHz	0.00825
700 MHz	0.00116
800 MHz	0.01926
900 MHz	0.09949
1400 MHz	0.00041
1800 MHz	0.00078
1900 MHz	0.00019
2100 MHz	0.00373
2300 MHz	0.00073
2600 MHz TDD	0.00037
2600 MHz FDD	0.00018
3.4 GHz	0.00227
3.8 GHz	0.00469
Others	0.13706
Total	**0.29808**

Location 4

Measurement time:	10:17
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00935
174-230 MHz	0.01061
470-694 MHz	0.00843
700 MHz	0.00121
800 MHz	0.00495
900 MHz	0.01208
1400 MHz	0.00042
1800 MHz	0.00059
1900 MHz	0.00020
2100 MHz	0.00197
2300 MHz	0.00067
2600 MHz TDD	0.00038
2600 MHz FDD	0.00019
3.4 GHz	0.00214
3.8 GHz	0.00476
Others	0.13978
Total	**0.19774**

Location 5

Measurement time:	10:26
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00951
174-230 MHz	0.01091
470-694 MHz	0.00851
700 MHz	0.00148
800 MHz	0.04506
900 MHz	0.11728
1400 MHz	0.00043
1800 MHz	0.00059
1900 MHz	0.00020
2100 MHz	0.00530
2300 MHz	0.00133
2600 MHz TDD	0.00039
2600 MHz FDD	0.00019
3.4 GHz	0.00232
3.8 GHz	0.00518
Others	0.14258
Total	**0.35125**

Location 6

Measurement time:	10:34
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00961
174-230 MHz	0.01096
470-694 MHz	0.00859
700 MHz	0.00134
800 MHz	0.02146
900 MHz	0.04498
1400 MHz	0.00043
1800 MHz	0.00132
1900 MHz	0.00021
2100 MHz	0.00587
2300 MHz	0.00080
2600 MHz TDD	0.00039
2600 MHz FDD	0.00019
3.4 GHz	0.00230
3.8 GHz	0.00494
Others	0.14397
Total	**0.25736**

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.