

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:	15/01/2025	Time Survey completed:	11:50
Survey address:	Persnore WR10		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072611	23/01/2024
Probe	Agos Aria-6000 Antenna	1117	28/11/2022
Cabling	1.7m cable	1319	28/11/2022

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:	10:45
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00982
174-230 MHz	0.01131
470-694 MHz	0.00863
700 MHz	0.00230
800 MHz	0.00469
900 MHz	0.00061
1400 MHz	0.00435
1800 MHz	0.03005
1900 MHz	0.00021
2100 MHz	0.00240
2300 MHz	0.00048
2600 MHz TDD	0.00041
2600 MHz FDD	0.00020
3.4 GHz	0.00246
3.8 GHz	0.00544
Others	0.15477
Total	0.23814

Location 2

Measurement time:	10:58
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01022
174-230 MHz	0.01153
470-694 MHz	0.00882
700 MHz	0.01495
800 MHz	0.04511
900 MHz	0.00063
1400 MHz	0.01462
1800 MHz	0.04473
1900 MHz	0.00021
2100 MHz	0.01733
2300 MHz	0.00049
2600 MHz TDD	0.00042
2600 MHz FDD	0.00021
3.4 GHz	0.00264
3.8 GHz	0.00555
Others	0.15781
Total	0.33526

Location 3

Measurement time:	11:08
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00997
174-230 MHz	0.01156
470-694 MHz	0.00881
700 MHz	0.00430
800 MHz	0.11686
900 MHz	0.00100
1400 MHz	0.00212
1800 MHz	0.07955
1900 MHz	0.00021
2100 MHz	0.00302
2300 MHz	0.00049
2600 MHz TDD	0.00041
2600 MHz FDD	0.00020
3.4 GHz	0.00240
3.8 GHz	0.00556
Others	0.15670
Total	0.40316

Location 4

Measurement time:	11:19
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01011
174-230 MHz	0.01176
470-694 MHz	0.00897
700 MHz	0.00231
800 MHz	0.00792
900 MHz	0.00064
1400 MHz	0.00073
1800 MHz	0.03898
1900 MHz	0.00022
2100 MHz	0.00134
2300 MHz	0.00050
2600 MHz TDD	0.00043
2600 MHz FDD	0.00021
3.4 GHz	0.00235
3.8 GHz	0.00572
Others	0.15831
Total	0.25048

Location 5

Measurement time:	11:32
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01035
174-230 MHz	0.01171
470-694 MHz	0.00896
700 MHz	0.00215
800 MHz	0.01194
900 MHz	0.00065
1400 MHz	0.00126
1800 MHz	0.01202
1900 MHz	0.00022
2100 MHz	0.00135
2300 MHz	0.00050
2600 MHz TDD	0.00042
2600 MHz FDD	0.00021
3.4 GHz	0.00241
3.8 GHz	0.00572
Others	0.16502
Total	0.23489

Location 6

Measurement time:	11:44
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01027
174-230 MHz	0.01191
470-694 MHz	0.00897
700 MHz	0.00218
800 MHz	0.00406
900 MHz	0.00065
1400 MHz	0.00649
1800 MHz	0.03288
1900 MHz	0.00022
2100 MHz	0.00375
2300 MHz	0.00049
2600 MHz TDD	0.00042
2600 MHz FDD	0.00021
3.4 GHz	0.00275
3.8 GHz	0.00569
Others	0.16332
Total	0.25427

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.