

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:	03/12/2025	Time Survey completed:	10:53
Survey address:	Ribbleton PR1		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240265	31/10/2025
Probe	Agos Aria-6000 Antenna	AGOS-6000-1022	08/07/2025
Cabling	1.7m cable	1405	08/07/2025

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:	09:56
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00667
174-230 MHz	0.00606
470-694 MHz	0.00480
700 MHz	0.01836
800 MHz	0.00496
900 MHz	0.00263
1400 MHz	0.02606
1800 MHz	0.00813
1900 MHz	0.00008
2100 MHz	0.00328
2300 MHz	0.00019
2600 MHz TDD	0.00019
2600 MHz FDD	0.00009
3.4 GHz	0.00366
3.8 GHz	0.00168
Others	0.07557
Total	0.16242

Location 2

Measurement time:	10:06
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00699
174-230 MHz	0.00637
470-694 MHz	0.00505
700 MHz	0.00549
800 MHz	0.00311
900 MHz	0.00217
1400 MHz	0.00388
1800 MHz	0.00240
1900 MHz	0.00008
2100 MHz	0.00123
2300 MHz	0.00020
2600 MHz TDD	0.00020
2600 MHz FDD	0.00010
3.4 GHz	0.00095
3.8 GHz	0.00179
Others	0.08014
Total	0.12016

Location 3

Measurement time:	10:15
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00725
174-230 MHz	0.00662
470-694 MHz	0.00538
700 MHz	0.01226
800 MHz	0.09592
900 MHz	0.01919
1400 MHz	0.00165
1800 MHz	0.00334
1900 MHz	0.00009
2100 MHz	0.01135
2300 MHz	0.00021
2600 MHz TDD	0.00021
2600 MHz FDD	0.00010
3.4 GHz	0.00129
3.8 GHz	0.00191
Others	0.08408
Total	0.25085

Location 4

Measurement time:	10:29
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00745
174-230 MHz	0.00684
470-694 MHz	0.00539
700 MHz	0.00943
800 MHz	0.00464
900 MHz	0.00315
1400 MHz	0.00813
1800 MHz	0.00478
1900 MHz	0.00009
2100 MHz	0.00381
2300 MHz	0.00022
2600 MHz TDD	0.00022
2600 MHz FDD	0.00011
3.4 GHz	0.00157
3.8 GHz	0.00200
Others	0.08698
Total	0.14482

Location 5

Measurement time:	10:38
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00759
174-230 MHz	0.00693
470-694 MHz	0.00568
700 MHz	0.03112
800 MHz	0.01040
900 MHz	0.00455
1400 MHz	0.00796
1800 MHz	0.00591
1900 MHz	0.00009
2100 MHz	0.00486
2300 MHz	0.00022
2600 MHz TDD	0.00023
2600 MHz FDD	0.00011
3.4 GHz	0.00126
3.8 GHz	0.00206
Others	0.08894
Total	0.17793

Location 6

Measurement time:	10:47
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00770
174-230 MHz	0.00714
470-694 MHz	0.00572
700 MHz	0.03592
800 MHz	0.00751
900 MHz	0.00209
1400 MHz	0.01884
1800 MHz	0.01502
1900 MHz	0.00010
2100 MHz	0.00208
2300 MHz	0.00023
2600 MHz TDD	0.00023
2600 MHz FDD	0.00011
3.4 GHz	0.00463
3.8 GHz	0.00214
Others	0.09149
Total	0.20094

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.