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:	14/08/2025	**Time Survey completed:**	12:17
Survey address:	Southport PR9		

Measurement equipment		**Serial number**	**Calibration Date**
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072599	22/02/2025
Probe	Agos Aria-6000 Antenna	6000-1022	08/07/2025
Cabling	1.7m cable	1462	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 seven locations and are presented in the following pages of this report.

Location 1

Measurement time:	11:15
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01168
174-230 MHz	0.01178
470-694 MHz	0.00919
700 MHz	0.00525
800 MHz	0.06087
900 MHz	0.12446
1400 MHz	0.00236
1800 MHz	0.03304
1900 MHz	0.00021
2100 MHz	0.01149
2300 MHz	0.00145
2600 MHz TDD	0.00075
2600 MHz FDD	0.00083
3.4 GHz	0.00279
3.8 GHz	0.00565
Others	0.16249
Total	**0.44428**

Location 2

Measurement time:	11:25
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01199
174-230 MHz	0.01284
470-694 MHz	0.00988
700 MHz	0.00455
800 MHz	0.03115
900 MHz	0.08775
1400 MHz	0.00083
1800 MHz	0.00437
1900 MHz	0.00023
2100 MHz	0.00300
2300 MHz	0.00078
2600 MHz TDD	0.00047
2600 MHz FDD	0.00055
3.4 GHz	0.00308
3.8 GHz	0.00676
Others	0.17854
Total	**0.35678**

Location 3

Measurement time:	11:38
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01395
174-230 MHz	0.01445
470-694 MHz	0.01092
700 MHz	0.00301
800 MHz	0.02347
900 MHz	0.00969
1400 MHz	0.00067
1800 MHz	0.00368
1900 MHz	0.00026
2100 MHz	0.00504
2300 MHz	0.00108
2600 MHz TDD	0.00052
2600 MHz FDD	0.00098
3.4 GHz	0.00364
3.8 GHz	0.00744
Others	0.20022
Total	**0.29903**

Location 4

Measurement time:	11:45
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01369
174-230 MHz	0.01514
470-694 MHz	0.01140
700 MHz	0.00504
800 MHz	0.01145
900 MHz	0.01741
1400 MHz	0.00080
1800 MHz	0.01011
1900 MHz	0.00027
2100 MHz	0.00754
2300 MHz	0.00221
2600 MHz TDD	0.00081
2600 MHz FDD	0.00186
3.4 GHz	0.00365
3.8 GHz	0.00756
Others	0.21070
Total	**0.31964**

Location 5

Measurement time:	11:53
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01379
174-230 MHz	0.01537
470-694 MHz	0.01162
700 MHz	0.02406
800 MHz	0.06157
900 MHz	0.01858
1400 MHz	0.00133
1800 MHz	0.01643
1900 MHz	0.00028
2100 MHz	0.00763
2300 MHz	0.00160
2600 MHz TDD	0.00063
2600 MHz FDD	0.00057
3.4 GHz	0.00379
3.8 GHz	0.00783
Others	0.21737
Total	**0.40243**

Location 6

Measurement time:	12:01
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01438
174-230 MHz	0.01577
470-694 MHz	0.01193
700 MHz	0.00558
800 MHz	0.01314
900 MHz	0.03407
1400 MHz	0.00106
1800 MHz	0.00419
1900 MHz	0.00029
2100 MHz	0.00218
2300 MHz	0.00078
2600 MHz TDD	0.00054
2600 MHz FDD	0.00051
3.4 GHz	0.00416
3.8 GHz	0.00821
Others	0.22272
Total	**0.33953**

Location 7

Measurement time:	12:11
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01476
174-230 MHz	0.01619
470-694 MHz	0.01211
700 MHz	0.01369
800 MHz	0.08556
900 MHz	0.15908
1400 MHz	0.00313
1800 MHz	0.01502
1900 MHz	0.00029
2100 MHz	0.01320
2300 MHz	0.00217
2600 MHz TDD	0.00080
2600 MHz FDD	0.00110
3.4 GHz	0.00420
3.8 GHz	0.00830
Others	0.22776
Total	**0.57736**

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.