

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:	14/10/2025	Time Survey completed:	16:07
Survey address:	Goosnargh, Preston PR3		

Measurement equipment			Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072593	06/08/2025	
Probe	Agos Aria-6000 Antenna	AGOS-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 six locations and are presented in the following pages of this report.



Location 1

Measurement time:	15:13
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00916
174-230 MHz	0.01037
470-694 MHz	0.00817
700 MHz	0.00108
800 MHz	0.01032
900 MHz	0.01000
1400 MHz	0.00041
1800 MHz	0.00057
1900 MHz	0.00020
2100 MHz	0.00119
2300 MHz	0.00042
2600 MHz TDD	0.00040
2600 MHz FDD	0.00026
3.4 GHz	0.00205
3.8 GHz	0.00439
Others	0.13368
Total	0.19265

Location 2

Measurement time:	15:20
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00967
174-230 MHz	0.01099
470-694 MHz	0.00868
700 MHz	0.00114
800 MHz	0.03597
900 MHz	0.01737
1400 MHz	0.00044
1800 MHz	0.00060
1900 MHz	0.00021
2100 MHz	0.00179
2300 MHz	0.00044
2600 MHz TDD	0.00044
2600 MHz FDD	0.00060
3.4 GHz	0.00220
3.8 GHz	0.00480
Others	0.14329
Total	0.23861

Location 3

Measurement time:	15:30
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01015
174-230 MHz	0.01162
470-694 MHz	0.00902
700 MHz	0.00120
800 MHz	0.02945
900 MHz	0.04650
1400 MHz	0.00047
1800 MHz	0.00064
1900 MHz	0.00022
2100 MHz	0.00128
2300 MHz	0.00047
2600 MHz TDD	0.00045
2600 MHz FDD	0.00036
3.4 GHz	0.00223
3.8 GHz	0.00504
Others	0.15177
Total	0.27087

Location 4

Measurement time:	15:42
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01063
174-230 MHz	0.01216
470-694 MHz	0.00936
700 MHz	0.00126
800 MHz	0.00654
900 MHz	0.00304
1400 MHz	0.00049
1800 MHz	0.00067
1900 MHz	0.00023
2100 MHz	0.00090
2300 MHz	0.00049
2600 MHz TDD	0.00047
2600 MHz FDD	0.00027
3.4 GHz	0.00236
3.8 GHz	0.00538
Others	0.15890
Total	0.21314

Location 5

Measurement time:	15:51
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01095
174-230 MHz	0.01260
470-694 MHz	0.00963
700 MHz	0.00129
800 MHz	0.00915
900 MHz	0.00472
1400 MHz	0.00051
1800 MHz	0.00069
1900 MHz	0.00024
2100 MHz	0.00130
2300 MHz	0.00051
2600 MHz TDD	0.00049
2600 MHz FDD	0.00031
3.4 GHz	0.00246
3.8 GHz	0.00555
Others	0.16320
Total	0.22359

Location 6

Measurement time:	16:01
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01119
174-230 MHz	0.01275
470-694 MHz	0.00975
700 MHz	0.00131
800 MHz	0.01277
900 MHz	0.01020
1400 MHz	0.00051
1800 MHz	0.00070
1900 MHz	0.00025
2100 MHz	0.00117
2300 MHz	0.00052
2600 MHz TDD	0.00049
2600 MHz FDD	0.00033
3.4 GHz	0.00263
3.8 GHz	0.00577
Others	0.16758
Total	0.23792

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.