

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:	05/08/2025	Time Survey completed:	12:31
Survey address:	High Wycombe HP13		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9950A Spectrum Analyser	US55240262	18/06/2025
Probe	Agos Aria-6000 Antenna	1111	08/07/2025
Cabling	1.7m cable	1313	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 five locations and are presented in the following pages of this report.



Location 1

Measurement time:	11:48
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.06760
174-230 MHz	0.03245
470-694 MHz	0.00533
700 MHz	0.00167
800 MHz	0.00632
900 MHz	0.00891
1400 MHz	0.00022
1800 MHz	0.00319
1900 MHz	0.00009
2100 MHz	0.04967
2300 MHz	0.00129
2600 MHz TDD	0.00020
2600 MHz FDD	0.00009
3.4 GHz	0.00262
3.8 GHz	0.00161
Others	0.07830
Total	0.25956

Location 2

Measurement time:	11:57
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.06048
174-230 MHz	0.07363
470-694 MHz	0.00567
700 MHz	0.00204
800 MHz	0.01600
900 MHz	0.01237
1400 MHz	0.00022
1800 MHz	0.01038
1900 MHz	0.00009
2100 MHz	0.00268
2300 MHz	0.00300
2600 MHz TDD	0.00021
2600 MHz FDD	0.00009
3.4 GHz	0.00878
3.8 GHz	0.00165
Others	0.08064
Total	0.27793

Location 3

Measurement time:	12:06
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.11613
174-230 MHz	0.06941
470-694 MHz	0.00534
700 MHz	0.00265
800 MHz	0.01393
900 MHz	0.00553
1400 MHz	0.00023
1800 MHz	0.00528
1900 MHz	0.00009
2100 MHz	0.00215
2300 MHz	0.00129
2600 MHz TDD	0.00022
2600 MHz FDD	0.00009
3.4 GHz	0.00294
3.8 GHz	0.00170
Others	0.08345
Total	0.31043

Location 4

Measurement time:	12:16
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01773
174-230 MHz	0.06692
470-694 MHz	0.00557
700 MHz	0.00199
800 MHz	0.01190
900 MHz	0.00432
1400 MHz	0.00023
1800 MHz	0.00231
1900 MHz	0.00009
2100 MHz	0.00140
2300 MHz	0.00059
2600 MHz TDD	0.00022
2600 MHz FDD	0.00009
3.4 GHz	0.00107
3.8 GHz	0.00174
Others	0.08367
Total	0.19984

Location 5

Measurement time:	12:25
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.03703
174-230 MHz	0.04457
470-694 MHz	0.00581
700 MHz	0.00195
800 MHz	0.00707
900 MHz	0.01322
1400 MHz	0.00023
1800 MHz	0.00270
1900 MHz	0.00010
2100 MHz	0.04342
2300 MHz	0.00154
2600 MHz TDD	0.00022
2600 MHz FDD	0.00009
3.4 GHz	0.00284
3.8 GHz	0.00178
Others	0.08495
Total	0.24753

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.