

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:	06/09/2024	Time Survey completed:	12:36
Survey address:	Skipton BD23		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072594	04/11/2024
Probe	Agos Aria-6000 Antenna	6000-1024	30/03/2021
Cabling	1.7m cable	1383	12/11/2023

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:	11:34
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00815
174-230 MHz	0.00960
470-694 MHz	0.00765
700 MHz	0.00113
800 MHz	0.01089
900 MHz	0.00051
1400 MHz	0.00036
1800 MHz	0.00330
1900 MHz	0.00017
2100 MHz	0.00077
2300 MHz	0.00039
2600 MHz TDD	0.00033
2600 MHz FDD	0.00017
3.4 GHz	0.00183
3.8 GHz	0.00429
Others	0.12658
Total	0.17613

Location 2

Measurement time:	11:45
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00894
174-230 MHz	0.01051
470-694 MHz	0.00826
700 MHz	0.00120
800 MHz	0.00986
900 MHz	0.00058
1400 MHz	0.00039
1800 MHz	0.00172
1900 MHz	0.00019
2100 MHz	0.00167
2300 MHz	0.00044
2600 MHz TDD	0.00036
2600 MHz FDD	0.00019
3.4 GHz	0.00205
3.8 GHz	0.00483
Others	0.13977
Total	0.19097

Location 3

Measurement time:	11:54
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00939
174-230 MHz	0.01118
470-694 MHz	0.00872
700 MHz	0.00121
800 MHz	0.00505
900 MHz	0.00058
1400 MHz	0.00042
1800 MHz	0.00484
1900 MHz	0.00020
2100 MHz	0.00346
2300 MHz	0.00046
2600 MHz TDD	0.00039
2600 MHz FDD	0.00020
3.4 GHz	0.00221
3.8 GHz	0.00519
Others	0.14924
Total	0.20274

Location 4

Measurement time:	12:06
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01022
174-230 MHz	0.01191
470-694 MHz	0.00928
700 MHz	0.00137
800 MHz	0.00478
900 MHz	0.00070
1400 MHz	0.00045
1800 MHz	0.00316
1900 MHz	0.00021
2100 MHz	0.00307
2300 MHz	0.00049
2600 MHz TDD	0.00041
2600 MHz FDD	0.00021
3.4 GHz	0.00239
3.8 GHz	0.00560
Others	0.15989
Total	0.21414

Location 5

Measurement time:	12:21
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01011
174-230 MHz	0.01205
470-694 MHz	0.00926
700 MHz	0.00126
800 MHz	0.00435
900 MHz	0.00063
1400 MHz	0.00045
1800 MHz	0.00517
1900 MHz	0.00021
2100 MHz	0.00130
2300 MHz	0.00049
2600 MHz TDD	0.00041
2600 MHz FDD	0.00022
3.4 GHz	0.00242
3.8 GHz	0.00564
Others	0.16095
Total	0.21491

Location 6

Measurement time:	12:30
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01014
174-230 MHz	0.01216
470-694 MHz	0.00932
700 MHz	0.00124
800 MHz	0.00220
900 MHz	0.00062
1400 MHz	0.00045
1800 MHz	0.00591
1900 MHz	0.00022
2100 MHz	0.00248
2300 MHz	0.00050
2600 MHz TDD	0.00042
2600 MHz FDD	0.00022
3.4 GHz	0.00245
3.8 GHz	0.00573
Others	0.16249
Total	0.21654

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.