

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 420 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:	14/03/23	Time Survey completed:	11:22
Survey address:	Livingston EH54		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY57271744	24/01/2023
Probe	Agos Aria-6000 Antenna	60001089	30/12/2021
Cabling	1.7m Cable	1274	30/12/2021

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.

Mobile bands covered by this report

Frequency Band	Frequency	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**		

Notes

* 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.



Map data: © Google

Location 1

Measurement time:	10:36
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.0193
800 MHz	0.0080
900 MHz	0.0009
1400 MHz	0.0119
1800 MHz	0.0045
1900 MHz	0.0002
2100 MHz	0.0017
2300 MHz	0.0004
2600 MHz TDD	0.0003
2600 MHz FDD	0.0001
3.4 GHz	0.0010
3.8 GHz	0.0021
Others	0.0461
Total	0.0965

Location 2

Measurement time:	10:44
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.0041
800 MHz	0.0022
900 MHz	0.0023
1400 MHz	0.0021
1800 MHz	0.0061
1900 MHz	0.0002
2100 MHz	0.0013
2300 MHz	0.0004
2600 MHz TDD	0.0003
2600 MHz FDD	0.0001
3.4 GHz	0.0010
3.8 GHz	0.0023
Others	0.0482
Total	0.0705

Location 3

Measurement time:	10:51
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.0029
800 MHz	0.0022
900 MHz	0.0011
1400 MHz	0.0086
1800 MHz	0.0028
1900 MHz	0.0002
2100 MHz	0.0022
2300 MHz	0.0004
2600 MHz TDD	0.0003
2600 MHz FDD	0.0001
3.4 GHz	0.0011
3.8 GHz	0.0024
Others	0.0502
Total	0.0745

Location 4

Measurement time:	10:58
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.0102
800 MHz	0.0030
900 MHz	0.0007
1400 MHz	0.0041
1800 MHz	0.0022
1900 MHz	0.0002
2100 MHz	0.0010
2300 MHz	0.0004
2600 MHz TDD	0.0003
2600 MHz FDD	0.0001
3.4 GHz	0.0011
3.8 GHz	0.0025
Others	0.0515
Total	0.0773

Location 5

Measurement time:	11:07
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.0364
800 MHz	0.0228
900 MHz	0.0036
1400 MHz	0.0094
1800 MHz	0.0026
1900 MHz	0.0002
2100 MHz	0.0023
2300 MHz	0.0004
2600 MHz TDD	0.0003
2600 MHz FDD	0.0001
3.4 GHz	0.0013
3.8 GHz	0.0026
Others	0.0538
Total	0.1358

Location 6

Measurement time:	11:16
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
700 MHz	0.0187
800 MHz	0.0142
900 MHz	0.0009
1400 MHz	0.0157
1800 MHz	0.0045
1900 MHz	0.0002
2100 MHz	0.0020
2300 MHz	0.0004
2600 MHz TDD	0.0003
2600 MHz FDD	0.0001
3.4 GHz	0.0012
3.8 GHz	0.0026
Others	0.0540
Total	0.1148

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.