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:	04/04/2025	**Time Survey completed:**	12:05
Survey address:	Kendal LA9		

Measurement equipment		Serial number	Calibration Date
Meter	**Keysight Fieldfox N9915A Spectrum Analyser**	**US55240265**	**07/04/2024**
Probe	Agos Aria-6000 Antenna	6000-1022	22/01/2021
Cabling	1.7m cable	1462	18/01/2024

[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 seven locations and are presented in the following pages of this report.

Location 1

Measurement time:	11:08
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00742
174-230 MHz	0.00682
470-694 MHz	0.00545
700 MHz	0.00194
800 MHz	0.01762
900 MHz	0.01143
1400 MHz	0.00042
1800 MHz	0.00747
1900 MHz	0.00011
2100 MHz	0.00111
2300 MHz	0.00028
2600 MHz TDD	0.00037
2600 MHz FDD	0.00093
3.4 GHz	0.00254
3.8 GHz	0.00560
Others	0.12570
Total	**0.19520**

Location 2

Measurement time:	11:15
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00829
174-230 MHz	0.00757
470-694 MHz	0.00583
700 MHz	0.00285
800 MHz	0.05487
900 MHz	0.07987
1400 MHz	0.00089
1800 MHz	0.02361
1900 MHz	0.00012
2100 MHz	0.00527
2300 MHz	0.00030
2600 MHz TDD	0.00086
2600 MHz FDD	0.01191
3.4 GHz	0.00392
3.8 GHz	0.00676
Others	0.13844
Total	**0.35137**

Location 3

Measurement time:	11:23
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00836
174-230 MHz	0.00775
470-694 MHz	0.00618
700 MHz	0.00196
800 MHz	0.07376
900 MHz	0.10884
1400 MHz	0.00084
1800 MHz	0.00511
1900 MHz	0.00013
2100 MHz	0.00502
2300 MHz	0.00033
2600 MHz TDD	0.00056
2600 MHz FDD	0.00746
3.4 GHz	0.00335
3.8 GHz	0.00714
Others	0.15060
Total	**0.38738**

Location 4

Measurement time:	11:33
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00925
174-230 MHz	0.00849
470-694 MHz	0.00658
700 MHz	0.00239
800 MHz	0.08714
900 MHz	0.17482
1400 MHz	0.00150
1800 MHz	0.01150
1900 MHz	0.00014
2100 MHz	0.00741
2300 MHz	0.00036
2600 MHz TDD	0.00050
2600 MHz FDD	0.00240
3.4 GHz	0.00407
3.8 GHz	0.00798
Others	0.16594
Total	**0.49048**

Location 5

Measurement time:	11:44
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00920
174-230 MHz	0.00874
470-694 MHz	0.00694
700 MHz	0.00321
800 MHz	0.04896
900 MHz	0.13116
1400 MHz	0.00249
1800 MHz	0.00196
1900 MHz	0.00015
2100 MHz	0.00946
2300 MHz	0.00038
2600 MHz TDD	0.00069
2600 MHz FDD	0.00236
3.4 GHz	0.00405
3.8 GHz	0.00857
Others	0.17732
Total	**0.41564**

Location 6

Measurement time:	11:53
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00954
174-230 MHz	0.00881
470-694 MHz	0.00704
700 MHz	0.00139
800 MHz	0.04040
900 MHz	0.04126
1400 MHz	0.00110
1800 MHz	0.00182
1900 MHz	0.00015
2100 MHz	0.00191
2300 MHz	0.00040
2600 MHz TDD	0.00050
2600 MHz FDD	0.00097
3.4 GHz	0.00399
3.8 GHz	0.00877
Others	0.18096
Total	**0.30900**

Location 7

Measurement time:	11:59
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00968
174-230 MHz	0.00914
470-694 MHz	0.00724
700 MHz	0.00254
800 MHz	0.02032
900 MHz	0.01970
1400 MHz	0.00042
1800 MHz	0.00788
1900 MHz	0.00016
2100 MHz	0.00132
2300 MHz	0.00041
2600 MHz TDD	0.00051
2600 MHz FDD	0.00096
3.4 GHz	0.00401
3.8 GHz	0.00923
Others	0.18646
Total	**0.27999**

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.