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 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:	01/10/2024	**Time Survey completed:**	13:21
Survey address:	Aberdeen AB12		

Measurement equipment		**Serial number**	**Calibration Date**
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY57271744	25/01/2024
Probe	Agos Aria-6000 Antenna	ARIA-6000-1089	30/12/2021
Cabling	1.7m cable	1240	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 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:	12:37
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00327
800 MHz	0.03451
900 MHz	0.00135
1400 MHz	0.00056
1800 MHz	0.05888
1900 MHz	0.00025
2100 MHz	0.00324
2300 MHz	0.00099
2600 MHz TDD	0.00040
2600 MHz FDD	0.00015
3.4 GHz	0.00163
3.8 GHz	0.00366
Others	0.18539
Total	**0.29430**

Location 2

Measurement time:	12:44
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00380
800 MHz	0.02511
900 MHz	0.00125
1400 MHz	0.00057
1800 MHz	0.02509
1900 MHz	0.00025
2100 MHz	0.00255
2300 MHz	0.00075
2600 MHz TDD	0.00040
2600 MHz FDD	0.00015
3.4 GHz	0.00158
3.8 GHz	0.00366
Others	0.18551
Total	**0.25067**

Location 3

Measurement time:	12:51
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00765
800 MHz	0.07350
900 MHz	0.00120
1400 MHz	0.00056
1800 MHz	0.01408
1900 MHz	0.00025
2100 MHz	0.00292
2300 MHz	0.00070
2600 MHz TDD	0.00040
2600 MHz FDD	0.00015
3.4 GHz	0.00164
3.8 GHz	0.00365
Others	0.18560
Total	**0.29230**

Location 4

Measurement time:	13:00
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00236
800 MHz	0.03159
900 MHz	0.00082
1400 MHz	0.00061
1800 MHz	0.00833
1900 MHz	0.00025
2100 MHz	0.00711
2300 MHz	0.00061
2600 MHz TDD	0.00040
2600 MHz FDD	0.00016
3.4 GHz	0.00153
3.8 GHz	0.00364
Others	0.18470
Total	**0.24211**

Location 5

Measurement time:	13:07
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00307
800 MHz	0.04105
900 MHz	0.00114
1400 MHz	0.00055
1800 MHz	0.02078
1900 MHz	0.00025
2100 MHz	0.00461
2300 MHz	0.00060
2600 MHz TDD	0.00040
2600 MHz FDD	0.00014
3.4 GHz	0.00151
3.8 GHz	0.00362
Others	0.18399
Total	**0.26169**

Location 6

Measurement time:	13:15
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
700 MHz	0.00636
800 MHz	0.03902
900 MHz	0.00162
1400 MHz	0.00057
1800 MHz	0.03976
1900 MHz	0.00025
2100 MHz	0.00673
2300 MHz	0.00084
2600 MHz TDD	0.00039
2600 MHz FDD	0.00015
3.4 GHz	0.00156
3.8 GHz	0.00359
Others	0.18285
Total	**0.28369**

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.