

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:	04/09/2025	Time Survey completed:	11:03
Survey address:	Portglenone BT44		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9950A Spectrum Analyser	US55240264	30/01/2025
Probe	Agos Aria-6000 Antenna	1112	08/07/2025
Cabling	1.7m cable	1314	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 six locations and are presented in the following pages of this report.



Location 1

Measurement time:	10:06
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00760
174-230 MHz	0.00713
470-694 MHz	0.00556
700 MHz	0.00129
800 MHz	0.00627
900 MHz	0.00933
1400 MHz	0.00024
1800 MHz	0.00029
1900 MHz	0.00010
2100 MHz	0.00278
2300 MHz	0.00025
2600 MHz TDD	0.00049
2600 MHz FDD	0.00012
3.4 GHz	0.00098
3.8 GHz	0.00247
Others	0.09463
Total	0.13954

Location 2

Measurement time:	10:15
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00800
174-230 MHz	0.00751
470-694 MHz	0.00584
700 MHz	0.00081
800 MHz	0.00060
900 MHz	0.00094
1400 MHz	0.00026
1800 MHz	0.00031
1900 MHz	0.00011
2100 MHz	0.00041
2300 MHz	0.00026
2600 MHz TDD	0.00027
2600 MHz FDD	0.00013
3.4 GHz	0.00105
3.8 GHz	0.00258
Others	0.09987
Total	0.12895

Location 3

Measurement time:	10:25
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00841
174-230 MHz	0.00775
470-694 MHz	0.00600
700 MHz	0.00081
800 MHz	0.00049
900 MHz	0.00060
1400 MHz	0.00027
1800 MHz	0.00032
1900 MHz	0.00011
2100 MHz	0.00038
2300 MHz	0.00027
2600 MHz TDD	0.00028
2600 MHz FDD	0.00014
3.4 GHz	0.00111
3.8 GHz	0.00271
Others	0.10315
Total	0.13281

Location 4

Measurement time:	10:39
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00868
174-230 MHz	0.00806
470-694 MHz	0.00630
700 MHz	0.00091
800 MHz	0.00062
900 MHz	0.00090
1400 MHz	0.00028
1800 MHz	0.00034
1900 MHz	0.00012
2100 MHz	0.00037
2300 MHz	0.00029
2600 MHz TDD	0.00030
2600 MHz FDD	0.00014
3.4 GHz	0.00118
3.8 GHz	0.00291
Others	0.10916
Total	0.14056

Location 5

Measurement time:	10:48
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00949
174-230 MHz	0.00830
470-694 MHz	0.00645
700 MHz	0.00123
800 MHz	0.00158
900 MHz	0.00571
1400 MHz	0.00029
1800 MHz	0.00035
1900 MHz	0.00012
2100 MHz	0.00056
2300 MHz	0.00030
2600 MHz TDD	0.00035
2600 MHz FDD	0.00015
3.4 GHz	0.00123
3.8 GHz	0.00314
Others	0.11272
Total	0.15194

Location 6

Measurement time:	10:57
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00919
174-230 MHz	0.00850
470-694 MHz	0.00662
700 MHz	0.00110
800 MHz	0.00205
900 MHz	0.00848
1400 MHz	0.00029
1800 MHz	0.00036
1900 MHz	0.00013
2100 MHz	0.00320
2300 MHz	0.00030
2600 MHz TDD	0.00061
2600 MHz FDD	0.00015
3.4 GHz	0.00127
3.8 GHz	0.00314
Others	0.11554
Total	0.16094

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.