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:	30/10/2025	**Time Survey completed:**	12:34
Survey address:	Waterlooville PO7		

Measurement equipment			**Serial number**	**Calibration Date**
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072613	07/07/2025	
Probe	Agos Aria-6000 Antenna	1157	08/07/2025	
Cabling	1.7m cable	1379	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:	11:03
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.00915
174-230 MHz	0.01037
470-694 MHz	0.00785
700 MHz	0.00312
800 MHz	0.00458
900 MHz	0.00086
1400 MHz	0.00178
1800 MHz	0.00595
1900 MHz	0.00017
2100 MHz	0.00149
2300 MHz	0.00037
2600 MHz TDD	0.00034
2600 MHz FDD	0.00022
3.4 GHz	0.00466
3.8 GHz	0.00546
Others	0.14242
Total	**0.19879**

Location 2

Measurement time:	11:19
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01003
174-230 MHz	0.01121
470-694 MHz	0.00847
700 MHz	0.01284
800 MHz	0.02216
900 MHz	0.00060
1400 MHz	0.00276
1800 MHz	0.00595
1900 MHz	0.00019
2100 MHz	0.00221
2300 MHz	0.00041
2600 MHz TDD	0.00037
2600 MHz FDD	0.00023
3.4 GHz	0.00466
3.8 GHz	0.00592
Others	0.15732
Total	**0.24533**

Location 3

Measurement time:	11:30
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01026
174-230 MHz	0.01147
470-694 MHz	0.00865
700 MHz	0.00200
800 MHz	0.00237
900 MHz	0.00061
1400 MHz	0.00171
1800 MHz	0.00298
1900 MHz	0.00020
2100 MHz	0.00213
2300 MHz	0.00042
2600 MHz TDD	0.00038
2600 MHz FDD	0.00023
3.4 GHz	0.00333
3.8 GHz	0.00602
Others	0.16076
Total	**0.21352**

Location 4

Measurement time:	11:40
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01028
174-230 MHz	0.01154
470-694 MHz	0.00864
700 MHz	0.00134
800 MHz	0.00100
900 MHz	0.00068
1400 MHz	0.00099
1800 MHz	0.00116
1900 MHz	0.00020
2100 MHz	0.00079
2300 MHz	0.00042
2600 MHz TDD	0.00038
2600 MHz FDD	0.00024
3.4 GHz	0.00287
3.8 GHz	0.00596
Others	0.16086
Total	**0.20734**

Location 5

Measurement time:	11:50
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01030
174-230 MHz	0.01162
470-694 MHz	0.00874
700 MHz	0.00346
800 MHz	0.00513
900 MHz	0.00064
1400 MHz	0.00200
1800 MHz	0.00255
1900 MHz	0.00020
2100 MHz	0.00138
2300 MHz	0.00043
2600 MHz TDD	0.00038
2600 MHz FDD	0.00023
3.4 GHz	0.00331
3.8 GHz	0.00599
Others	0.16192
Total	**0.21826**

Location 6

Measurement time:	12:28
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01038
174-230 MHz	0.01158
470-694 MHz	0.00868
700 MHz	0.00259
800 MHz	0.00351
900 MHz	0.00100
1400 MHz	0.00159
1800 MHz	0.00372
1900 MHz	0.00020
2100 MHz	0.00179
2300 MHz	0.00042
2600 MHz TDD	0.00038
2600 MHz FDD	0.00029
3.4 GHz	0.00724
3.8 GHz	0.00621
Others	0.16196
Total	**0.22153**

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.