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:	09/12/2025	**Time Survey completed:**	14:41
Survey address:	Sandy SG19		

	Measurement equipment	Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072605	19/03/2025
Probe	Agos Aria-6000 Antenna	ARIA-6000-1111	08/07/2025
Cabling	1.7m cable	1313	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:	13:49
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.10186
174-230 MHz	0.02869
470-694 MHz	0.05686
700 MHz	0.00129
800 MHz	0.00119
900 MHz	0.00137
1400 MHz	0.00054
1800 MHz	0.00089
1900 MHz	0.00027
2100 MHz	0.00069
2300 MHz	0.00051
2600 MHz TDD	0.00047
2600 MHz FDD	0.00028
3.4 GHz	0.00311
3.8 GHz	0.00739
Others	0.25561
Total	**0.46104**

Location 2

Measurement time:	13:59
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.05414
174-230 MHz	0.11118
470-694 MHz	0.06921
700 MHz	0.00130
800 MHz	0.00160
900 MHz	0.00425
1400 MHz	0.00055
1800 MHz	0.00111
1900 MHz	0.00027
2100 MHz	0.00109
2300 MHz	0.00052
2600 MHz TDD	0.00047
2600 MHz FDD	0.00029
3.4 GHz	0.00315
3.8 GHz	0.00745
Others	0.25530
Total	**0.51188**

Location 3

Measurement time:	14:08
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.06506
174-230 MHz	0.03090
470-694 MHz	0.04037
700 MHz	0.00131
800 MHz	0.00115
900 MHz	0.00210
1400 MHz	0.00055
1800 MHz	0.00100
1900 MHz	0.00028
2100 MHz	0.00074
2300 MHz	0.00053
2600 MHz TDD	0.00048
2600 MHz FDD	0.00029
3.4 GHz	0.00321
3.8 GHz	0.00757
Others	0.26008
Total	**0.41562**

Location 4

Measurement time:	14:17
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.67877
174-230 MHz	0.02287
470-694 MHz	0.06305
700 MHz	0.00133
800 MHz	0.00225
900 MHz	0.00231
1400 MHz	0.00055
1800 MHz	0.00140
1900 MHz	0.00028
2100 MHz	0.00139
2300 MHz	0.00053
2600 MHz TDD	0.00048
2600 MHz FDD	0.00029
3.4 GHz	0.00319
3.8 GHz	0.00757
Others	0.25946
Total	**1.04572**

Location 5

Measurement time:	14:26
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.11174
174-230 MHz	0.05889
470-694 MHz	0.06609
700 MHz	0.00132
800 MHz	0.00120
900 MHz	0.00422
1400 MHz	0.00055
1800 MHz	0.00250
1900 MHz	0.00028
2100 MHz	0.00209
2300 MHz	0.00052
2600 MHz TDD	0.00048
2600 MHz FDD	0.00029
3.4 GHz	0.00320
3.8 GHz	0.00759
Others	0.25908
Total	**0.52005**

Location 6

	14:35
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01229
174-230 MHz	0.01147
470-694 MHz	0.01239
700 MHz	0.00132
800 MHz	0.00071
900 MHz	0.00071
1400 MHz	0.00055
1800 MHz	0.00080
1900 MHz	0.00028
2100 MHz	0.00067
2300 MHz	0.00053
2600 MHz TDD	0.00048
2600 MHz FDD	0.00029
3.4 GHz	0.00320
3.8 GHz	0.00758
Others	0.25907
Total	**0.31234**

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.