

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:	01/06/2026	Time Survey completed:	14:49
Survey address:	Middlesbrough TS8		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072594	25/11/2025
Probe	Agos Aria-6000 Antenna	AGOS-6000-1156	08/07/2025
Cabling	1.7m cable	1378	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:	14:04
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00736
174-230 MHz	0.00867
470-694 MHz	0.00701
700 MHz	0.00662
800 MHz	0.02807
900 MHz	0.00856
1400 MHz	0.00942
1800 MHz	0.00748
1900 MHz	0.00015
2100 MHz	0.00311
2300 MHz	0.00102
2600 MHz TDD	0.00029
2600 MHz FDD	0.00213
3.4 GHz	0.00254
3.8 GHz	0.00417
Others	0.11379
Total	0.21039

Location 2

Measurement time:	14:11
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00769
174-230 MHz	0.00920
470-694 MHz	0.00739
700 MHz	0.01651
800 MHz	0.09302
900 MHz	0.01533
1400 MHz	0.05966
1800 MHz	0.00710
1900 MHz	0.00016
2100 MHz	0.00390
2300 MHz	0.00100
2600 MHz TDD	0.00031
2600 MHz FDD	0.00217
3.4 GHz	0.00320
3.8 GHz	0.00462
Others	0.12240
Total	0.35366

Location 3

Measurement time:	14:19
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00823
174-230 MHz	0.00971
470-694 MHz	0.00771
700 MHz	0.00764
800 MHz	0.03939
900 MHz	0.00649
1400 MHz	0.02883
1800 MHz	0.01499
1900 MHz	0.00017
2100 MHz	0.00385
2300 MHz	0.00089
2600 MHz TDD	0.00033
2600 MHz FDD	0.00045
3.4 GHz	0.00302
3.8 GHz	0.00459
Others	0.12868
Total	0.26497

Location 4

Measurement time:	14:26
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00850
174-230 MHz	0.01014
470-694 MHz	0.00805
700 MHz	0.06034
800 MHz	0.30322
900 MHz	0.09278
1400 MHz	0.03726
1800 MHz	0.03276
1900 MHz	0.00018
2100 MHz	0.01205
2300 MHz	0.00203
2600 MHz TDD	0.00035
2600 MHz FDD	0.00080
3.4 GHz	0.00468
3.8 GHz	0.00485
Others	0.13558
Total	0.71355

Location 5

Measurement time:	14:34
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00863
174-230 MHz	0.01021
470-694 MHz	0.00918
700 MHz	0.01113
800 MHz	0.02887
900 MHz	0.00212
1400 MHz	0.00821
1800 MHz	0.01453
1900 MHz	0.00018
2100 MHz	0.00394
2300 MHz	0.00049
2600 MHz TDD	0.00035
2600 MHz FDD	0.00253
3.4 GHz	0.00449
3.8 GHz	0.00501
Others	0.13635
Total	0.24623

Location 6

Measurement time:	14:43
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00897
174-230 MHz	0.01060
470-694 MHz	0.00832
700 MHz	0.00677
800 MHz	0.03424
900 MHz	0.01246
1400 MHz	0.01292
1800 MHz	0.00833
1900 MHz	0.00019
2100 MHz	0.00371
2300 MHz	0.00134
2600 MHz TDD	0.00036
2600 MHz FDD	0.00206
3.4 GHz	0.00348
3.8 GHz	0.00539
Others	0.14080
Total	0.25994

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.