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:	02/10/2025	**Time Survey completed:**	12:43
Survey address:	Sandwell, Dudley B64		

Measurement equipment			**Serial number**	**Calibration Date**
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072612	04/11/2024	
Probe	Agos Aria-6000 Antenna	ARIA-6000-1117	08/07/2025	
Cabling	1.7m cable	1319	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:	11:39
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01037
174-230 MHz	0.01181
470-694 MHz	0.00915
700 MHz	0.00548
800 MHz	0.00184
900 MHz	0.00065
1400 MHz	0.00450
1800 MHz	0.00284
1900 MHz	0.00022
2100 MHz	0.00297
2300 MHz	0.00044
2600 MHz TDD	0.00037
2600 MHz FDD	0.00269
3.4 GHz	0.00450
3.8 GHz	0.00578
Others	0.16162
Total	**0.22523**

Location 2

Measurement time:	11:55
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01060
174-230 MHz	0.01308
470-694 MHz	0.00939
700 MHz	0.03469
800 MHz	0.00305
900 MHz	0.00066
1400 MHz	0.00606
1800 MHz	0.00397
1900 MHz	0.00023
2100 MHz	0.00519
2300 MHz	0.00045
2600 MHz TDD	0.00038
2600 MHz FDD	0.00023
3.4 GHz	0.00891
3.8 GHz	0.00609
Others	0.16707
Total	**0.27005**

Location 3

Measurement time:	12:04
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01060
174-230 MHz	0.01300
470-694 MHz	0.00931
700 MHz	0.00455
800 MHz	0.00226
900 MHz	0.00106
1400 MHz	0.00199
1800 MHz	0.00217
1900 MHz	0.00023
2100 MHz	0.00141
2300 MHz	0.00047
2600 MHz TDD	0.00038
2600 MHz FDD	0.00023
3.4 GHz	0.00315
3.8 GHz	0.00589
Others	0.16737
Total	**0.22408**

Location 4

Measurement time:	12:13
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01070
174-230 MHz	0.01278
470-694 MHz	0.00935
700 MHz	0.01321
800 MHz	0.00408
900 MHz	0.00085
1400 MHz	0.01759
1800 MHz	0.00482
1900 MHz	0.00023
2100 MHz	0.00563
2300 MHz	0.00049
2600 MHz TDD	0.00039
2600 MHz FDD	0.00026
3.4 GHz	0.00411
3.8 GHz	0.00595
Others	0.16658
Total	**0.25702**

Location 5

Measurement time:	12:30
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01068
174-230 MHz	0.01407
470-694 MHz	0.00946
700 MHz	0.00406
800 MHz	0.00154
900 MHz	0.00068
1400 MHz	0.01305
1800 MHz	0.00326
1900 MHz	0.00023
2100 MHz	0.00256
2300 MHz	0.00045
2600 MHz TDD	0.00039
2600 MHz FDD	0.00302
3.4 GHz	0.00530
3.8 GHz	0.00608
Others	0.17002
Total	**0.24485**

Location 6

Measurement time:	12:37
Frequency band	**Percentage of the ICNIRP reference levels for general public exposure**
87.5-108 MHz	0.01057
174-230 MHz	0.01233
470-694 MHz	0.00947
700 MHz	0.01392
800 MHz	0.00354
900 MHz	0.00068
1400 MHz	0.00742
1800 MHz	0.00223
1900 MHz	0.00023
2100 MHz	0.00379
2300 MHz	0.00045
2600 MHz TDD	0.00039
2600 MHz FDD	0.00277
3.4 GHz	0.00524
3.8 GHz	0.00619
Others	0.16849
Total	**0.24770**

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.