

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:	19/09/2024	Time Survey completed:	12:08
Survey address:	Bromyard HR7		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	MY56072611	23/01/2024
Probe	Agos Aria-6000 Antenna	ARIA-6000-1117	28/02/2022
Cabling	1.7m cable	1319	28/11/2022

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 five locations and are presented in the following pages of this report.



Location 1

Measurement time:	11:20
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00966
174-230 MHz	0.01123
470-694 MHz	0.00863
700 MHz	0.00238
800 MHz	0.03210
900 MHz	0.00059
1400 MHz	0.00047
1800 MHz	0.00545
1900 MHz	0.00021
2100 MHz	0.00071
2300 MHz	0.00047
2600 MHz TDD	0.00040
2600 MHz FDD	0.00019
3.4 GHz	0.00213
3.8 GHz	0.00526
Others	0.14844
Total	0.22831

Location 2

Measurement time:	11:32
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01039
174-230 MHz	0.01165
470-694 MHz	0.00896
700 MHz	0.00131
800 MHz	0.00165
900 MHz	0.00067
1400 MHz	0.00048
1800 MHz	0.00091
1900 MHz	0.00021
2100 MHz	0.00061
2300 MHz	0.00049
2600 MHz TDD	0.00042
2600 MHz FDD	0.00021
3.4 GHz	0.00228
3.8 GHz	0.00558
Others	0.15578
Total	0.20159

Location 3

Measurement time:	11:41
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01067
174-230 MHz	0.01210
470-694 MHz	0.00918
700 MHz	0.00138
800 MHz	0.00279
900 MHz	0.00084
1400 MHz	0.00050
1800 MHz	0.00466
1900 MHz	0.00022
2100 MHz	0.00073
2300 MHz	0.00050
2600 MHz TDD	0.00043
2600 MHz FDD	0.00022
3.4 GHz	0.00236
3.8 GHz	0.00579
Others	0.16048
Total	0.21284

Location 4

Measurement time:	11:54
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01074
174-230 MHz	0.01228
470-694 MHz	0.00937
700 MHz	0.00164
800 MHz	0.00545
900 MHz	0.00065
1400 MHz	0.00052
1800 MHz	0.00423
1900 MHz	0.00023
2100 MHz	0.00074
2300 MHz	0.00052
2600 MHz TDD	0.00044
2600 MHz FDD	0.00022
3.4 GHz	0.00243
3.8 GHz	0.00597
Others	0.16528
Total	0.22071

Location 5

Measurement time:	12:02
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01107
174-230 MHz	0.01259
470-694 MHz	0.00949
700 MHz	0.00217
800 MHz	0.02144
900 MHz	0.00066
1400 MHz	0.00053
1800 MHz	0.00880
1900 MHz	0.00024
2100 MHz	0.00086
2300 MHz	0.00053
2600 MHz TDD	0.00045
2600 MHz FDD	0.00023
3.4 GHz	0.00249
3.8 GHz	0.00610
Others	0.16791
Total	0.24555

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.