

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:	08/12/2025	Time Survey completed:	13:12
Survey address:	Padiham BB12		

Measurement equipment		Serial number	Calibration Date
Meter	Keysight Fieldfox N9915A Spectrum Analyser	US55240265	31/10/2025
Probe	Agos Aria-6000 Antenna	AGOS-6000-1022	08/07/2025
Cabling	1.7m cable	1405	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:	12:26
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01097
174-230 MHz	0.00972
470-694 MHz	0.00761
700 MHz	0.00152
800 MHz	0.04428
900 MHz	0.04930
1400 MHz	0.00038
1800 MHz	0.00043
1900 MHz	0.00014
2100 MHz	0.01907
2300 MHz	0.00152
2600 MHz TDD	0.00205
2600 MHz FDD	0.00082
3.4 GHz	0.00148
3.8 GHz	0.00328
Others	0.12824
Total	0.28080

Location 2

Measurement time:	12:33
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01096
174-230 MHz	0.00956
470-694 MHz	0.00748
700 MHz	0.00222
800 MHz	0.03247
900 MHz	0.11980
1400 MHz	0.00095
1800 MHz	0.00052
1900 MHz	0.00013
2100 MHz	0.02653
2300 MHz	0.00336
2600 MHz TDD	0.00178
2600 MHz FDD	0.00879
3.4 GHz	0.00156
3.8 GHz	0.00315
Others	0.12626
Total	0.35553

Location 3

Measurement time:	12:41
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01050
174-230 MHz	0.00922
470-694 MHz	0.00740
700 MHz	0.00819
800 MHz	0.02523
900 MHz	0.02137
1400 MHz	0.00071
1800 MHz	0.00089
1900 MHz	0.00013
2100 MHz	0.01862
2300 MHz	0.00157
2600 MHz TDD	0.00072
2600 MHz FDD	0.00083
3.4 GHz	0.00155
3.8 GHz	0.00303
Others	0.12033
Total	0.23029

Location 4

Measurement time:	12:50
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00976
174-230 MHz	0.00901
470-694 MHz	0.00696
700 MHz	0.00256
800 MHz	0.03606
900 MHz	0.04545
1400 MHz	0.00031
1800 MHz	0.00036
1900 MHz	0.00013
2100 MHz	0.00158
2300 MHz	0.00079
2600 MHz TDD	0.00044
2600 MHz FDD	0.00026
3.4 GHz	0.00168
3.8 GHz	0.00290
Others	0.11667
Total	0.23493

Location 5

Measurement time:	12:59
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.00998
174-230 MHz	0.00883
470-694 MHz	0.00690
700 MHz	0.00186
800 MHz	0.02506
900 MHz	0.02087
1400 MHz	0.00033
1800 MHz	0.00036
1900 MHz	0.00012
2100 MHz	0.00104
2300 MHz	0.00079
2600 MHz TDD	0.00039
2600 MHz FDD	0.00023
3.4 GHz	0.00146
3.8 GHz	0.00281
Others	0.11358
Total	0.19460

Location 6

Measurement time:	13:06
Frequency band	Percentage of the ICNIRP reference levels for general public exposure
87.5-108 MHz	0.01025
174-230 MHz	0.00869
470-694 MHz	0.00675
700 MHz	0.00246
800 MHz	0.04954
900 MHz	0.06501
1400 MHz	0.00036
1800 MHz	0.00039
1900 MHz	0.00012
2100 MHz	0.01086
2300 MHz	0.00168
2600 MHz TDD	0.00310
2600 MHz FDD	0.00091
3.4 GHz	0.00123
3.8 GHz	0.00279
Others	0.11254
Total	0.27669

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.