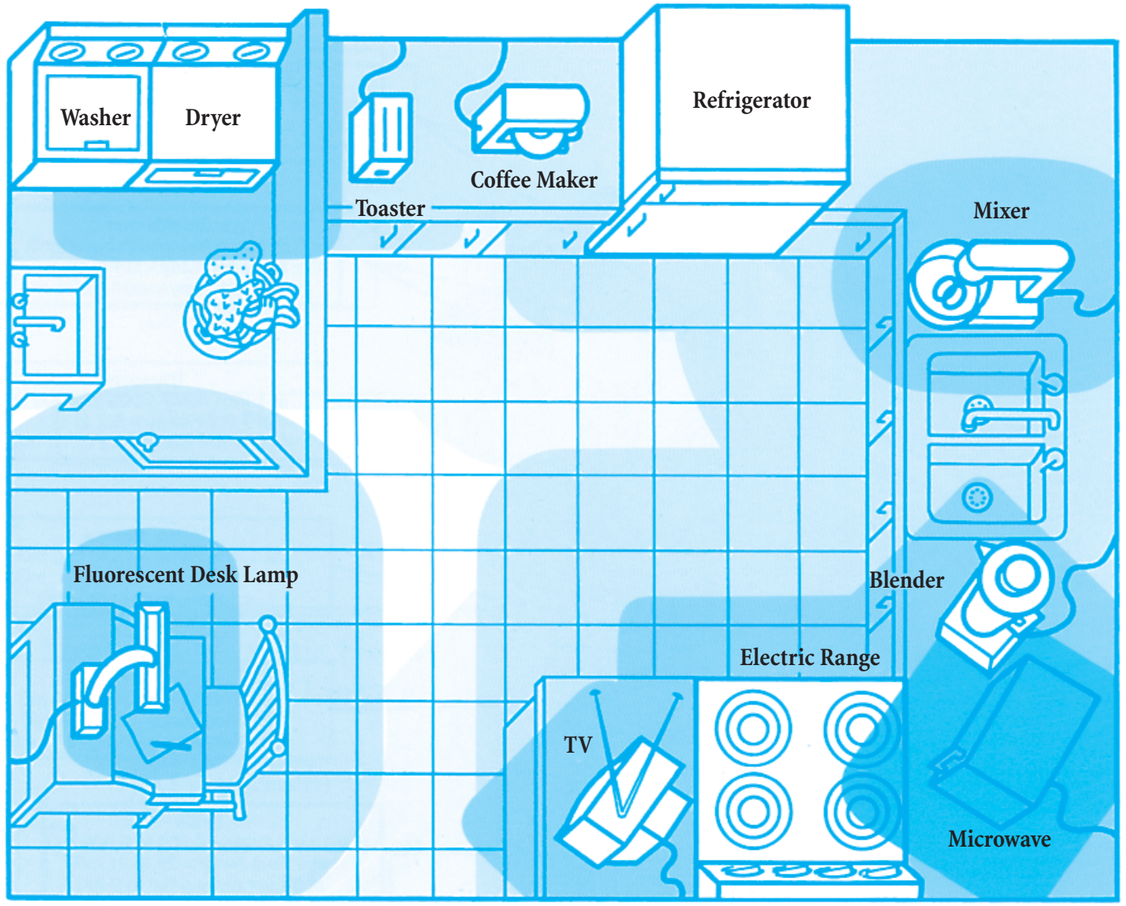
Magnetic Field Levels of Common Kitchen Appliances



<1 mG 1-10 mG 11-50 mG >50 mG

	(in mG) Mid-point 1 ft.	(in mG) Mid-point 3 ft.		(in mG) Mid-point 1 ft.	(in mG) Mid-point 3 ft.
Clothes Dryer	15	<1	Blender	11.1	1
Clothes Washer	1.9	<1	TV	10.2	<1
Coffee Maker	1.05	<1	Fluorescent		
Toaster	3.8	<1	Desk Lamp	13	1.15
Can Opener	115.5	3.75	Microwave	60	5.5
Mixer	52.5	1.08	Electric Range	22	3.55
Refrigerator	1.5	<1			

Notes:

1. Field intensity values in the original source documents were expressed in a range of upper and lower values (e.g. 40 to 80 milligauss). For illustrative purposes, mid-point values were used in this chart. Actual values may be higher or lower.
2. Field levels decrease continuously with distance from appliances. Field values at one foot and three feet are used here to simplify the illustration.
3. A milligauss is a unit of measurement of the density of a magnetic field. Magnetic fields depend on current.
4. Chart illustrates only magnetic field levels from appliances; fields from other sources will also be present within buildings.

Sources:

Gauger, J.R., IEEE Transactions on Power Apparatus and Systems, PA-104, Sept, 1985; Silva, M. *et al*, IEEE/PES 1988 Winter Meeting, 88-WM-101-8.

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Magnetic Field Levels Around Homes

The transmission, distribution and use of electric power results in weak electric and magnetic fields. An electric magnetic field is an invisible force field that occurs naturally, such as lightning and the Earth's magnetic field; and also as a byproduct of technology. Electric magnetic fields surround any electrical device including power lines, house wiring and appliances. Compare the magnetic field levels of appliances to electric transmission and distribution lines. You will see that many common items are higher than LIPA's transmission and distribution system.

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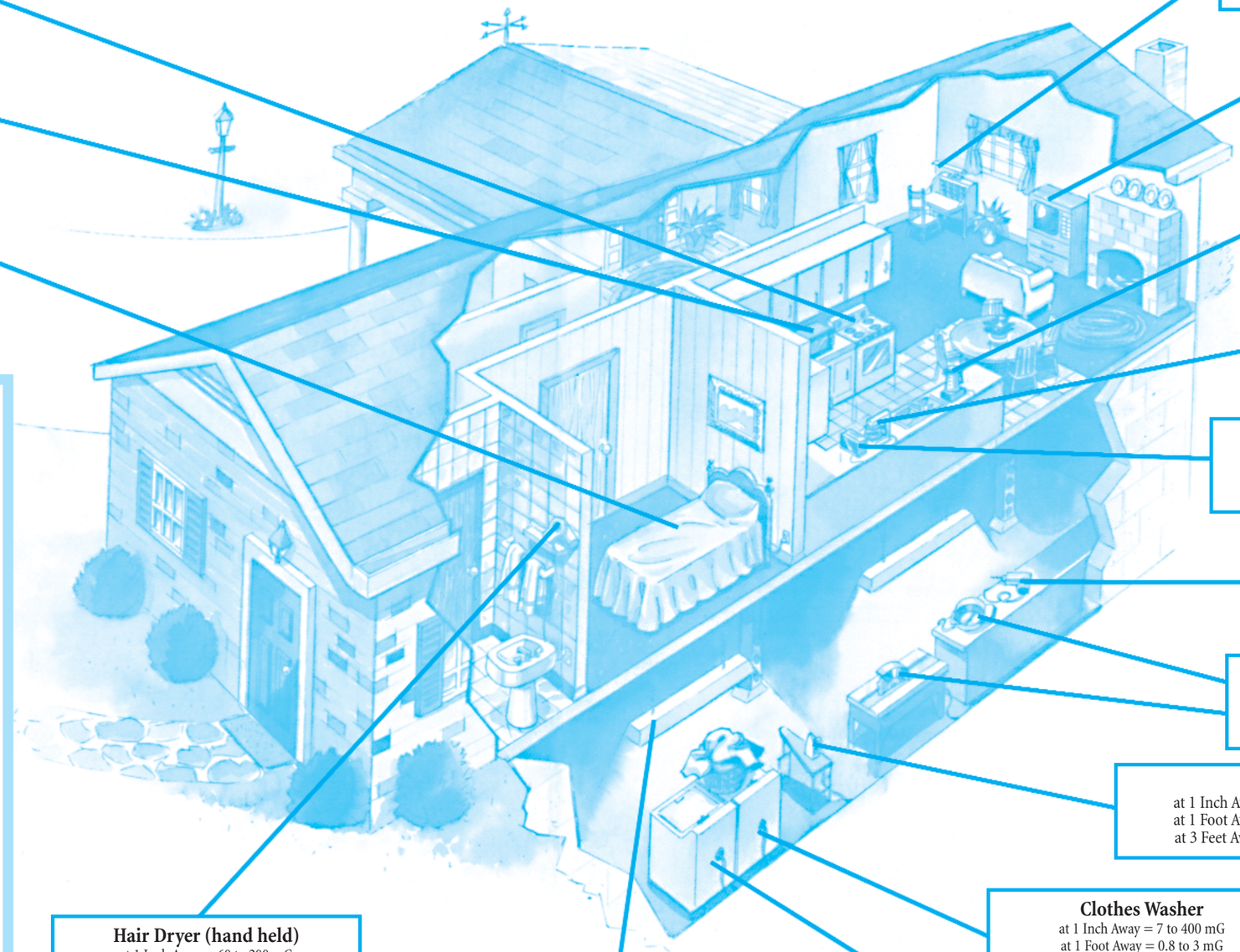
Magnetic Field Levels Around Homes

(Measured in milligauss, mG)



Electric Range
at 1 Inch Away = 60 to 2,000 mG
at 1 Foot Away = 4 to 40 mG
at 3 Feet Away = <0.1 to 7 mG

Microwave
at 1 Inch Away = 750 to 2,000 mG
at 1 Foot Away = 40 to 80 mG
at 3 Feet Away = 3 to 8 mG

Electric Blanket
at 1 Inch Away = 3 to 50 mG

Fluorescent Desk Lamp
at 1 Inch Away = 400 to 4,000 mG
at 1 Foot Away = 6 to 20 mG
at 3 Feet Away = 0.2 to 2.1 mG

Television
at 1 Inch Away = 25 to 500 mG
at 1 Foot Away = 0.4 to 20 mG
at 3 Feet Away = <0.1 to 1.5 mG

Blenders
at 1 Inch Away = 200 to 1,200 mG
at 1 Foot Away = 5.2 to 17 mG
at 3 Feet Away = 0.3 to 1.1 mG

Coffee Makers
at 1 Inch Away = 15 to 250 mG
at 1 Foot Away = 0.9 to 1.2 mG
at 3 Feet Away = <0.1 mG

Toasters
at 1 Inch Away = 70 to 150 mG
at 1 Foot Away = 0.6 to 7 mG
at 3 Feet Away = <0.1 to 0.11 mG

Drills
at 1 Inch Away = 4,000 to 8,000 mG
at 1 Foot Away = 22 to 31 mG
at 3 Feet Away = 0.8 to 2 mG

Saber & Circular Saws
at 1 Inch Away = 2,100 to 10,000 mG
at 1 Foot Away = 9 to 210 mG
at 3 Feet Away = 0.2 to 10 mG

Irons
at 1 Inch Away = 80 to 300 mG
at 1 Foot Away = 1.2 to 3.1 mG
at 3 Feet Away = 0.1 to 0.2 mG

Clothes Washer
at 1 Inch Away = 7 to 400 mG
at 1 Foot Away = 0.8 to 3 mG
at 3 Feet Away = 0.2 to 0.48 mG

Clothes Dryer
at 1 Inch Away = 3 to 70 mG
at 1 Foot Away = 1.5 to 29 mG
at 3 Feet Away = 0.1 to 1 mG

Hair Dryer (hand held)
at 1 Inch Away = 60 to 200 mG
at 1 Foot Away = <0.1 to 1.5 mG
at 3 Feet Away = <0.1

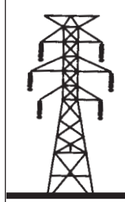
Fluorescent Fixtures
at 1 Inch Away = 130 to 2,000 mG
at 1 Foot Away = 2 to 32 mG
at 3 Feet Away = <0.1 to 2.8 mG

Measured Magnetic Fields Around Power Lines

Distribution Lines
(34.5 kV and under)

50 feet	100 feet
2 - 27 mG	<1 - 5 mG	<1 - 2 mG

Transmission Lines
(115-500 kV)



Edge of right-of-way	100 feet from edge of R/W
<10 - 69 mG	2 -10mG

Notes:

1. Sources of magnetic fields found in homes have been measured at:
   - household wiring <1 to 10 mG
   - ground currents on cold water pipe up to 5 mG
   - distribution lines <1 to 10 mG
2. Under peak load conditions, we calculate that the magnetic fields at the edge of right-of-way for transmission lines would not exceed 150 mG.

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