

FREQUENCY SPECTRUM

FREQUENCY SPECTRUM

NAME	f RANGE	λ RANGE	DESCRIPTION
TLF	0.3	3	1Gm 100Mm TREMENDOUSLY LOW FREQ.
ELF	3	30	100Mm 10Mm EXTREMELY LOW FREQUENCY
SLF	30	300	10Mm 1Mm SUPER LOW FREQUENCY
ULF	300	3kHz	1Mm 100km ULTRA LOW FREQUENCY
VLF	3kHz	30kHz	100km 10km VERY LOW FREQUENCY
LF	30kHz	300kHz	10km 1km LOW FREQUENCY
MF	300kHz	3MHz	1km 100m MEDIUM FREQUENCY
HF	3MHz	30MHz	100m 10m HIGH FREQUENCY
VHF	30MHz	300MHz	10m 1m VERY HIGH FREQUENCY
UHF	300MHz	3GHz	1m 100mm ULTRA HIGH FREQUENCY
SHF	3GHz	30GHz	100mm 10mm SUPER HIGH FREQUENCY
EHF	30GHz	300GHz	10mm 1mm EXTREMELY HIGH FREQUENCY
THF-FIR	300GHz	3THz	1mm 100um TREMENDOUSLY HIGH FREQ.
FIR-MIR	3THz	30THz	100um 10um FAR INFRARED - MID INFRARED
NIR	30THz	300THz	10um 1um NEAR INFRARED
NUV	300THz	3PHz	1um 100nm NEAR ULTRAVIOLET
EUV	3PHz	30PHz	100nm 10nm EXTREME ULTRAVIOLET
SXR	30PHz	300PHz	10nm 1nm SOFT X-RAYS
HXR	300PHz	3EHZ	1nm 100pm HARD X-RAYS
Y-RAYS	3EHZ	30EHZ	100pm 10pm GAMMA RAYS

0.3 Hz

3 Hz

30 Hz

300 Hz

3 kHz

30 kHz

300 kHz

3 MHz

30 MHz

300 MHz

3 GHz

30 GHz

300 GHz

3 THz

30 THz

300 THz

3 PHz

30 PHz

300 PHz

3 EHz

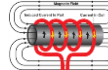
SOURCES



BRAIN WAVES



POWER LINES



INDUCTIVE HEATING



SOS BEACON

EMR SIZES



EARTH



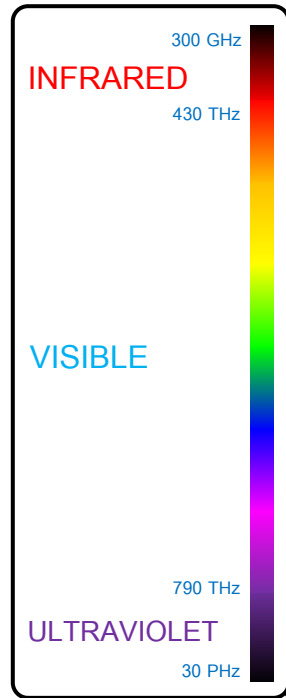
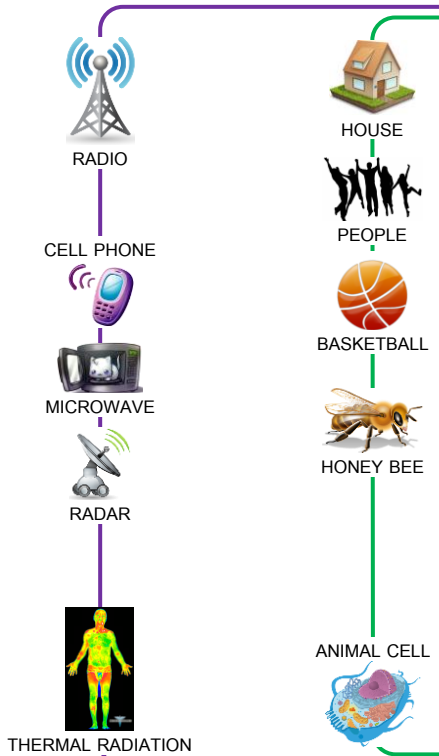
MOON



MEXICO



FOOTBALL FIELD



EU, NATO, US ECM

BAND	f RANGE	λ RANGE
A BAND	0 GHz - 0.25 GHz	0.0m - 1.2m
B BAND	0.25 GHz - 0.5 GHz	1.2m - 0.6m
C BAND	0.5 GHz - 1GHz	0.6m - 300m
D BAND	1GHz - 2GHz	300mm - 150mm
E BAND	2GHz - 3GHz	150mm - 100mm
F BAND	3GHz - 4GHz	100mm - 75mm
G BAND	4GHz - 6GHz	75mm - 50mm
H BAND	6GHz - 8GHz	50mm - 37.5mm
I BAND	8GHz - 10GHz	37.5mm - 30mm
J BAND	10GHz - 20GHz	30mm - 15mm
K BAND	20GHz - 40GHz	15mm - 7.5mm
L BAND	40GHz - 60GHz	7.5mm - 5mm
M BAND	60GHz - 100GHz	5mm - 3mm

ITU BAND DESIGNATIONS

BAND	f RANGE	λ RANGE
4	3kHz - 30kHz	100km - 10km
5	30kHz - 300kHz	10km - 1km
6	300kHz - 3MHz	1km - 100m
7	3MHz - 30MHz	100m - 10m
8	30MHz - 300MHz	10m - 1m
9	300MHz - 3GHz	1m - 100mm
10	3GHz - 30GHz	100mm - 10mm
11	30GHz - 300GHz	10mm - 1mm
12	300GHz - 3THz	1mm - 100um

IEEE FREQUENCY ALLOCATION CHART

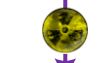
BAND	f RANGE	λ RANGE	DESCRIPTION
HF	3MHz - 30MHz	100m - 10m	HIGH FREQUENCY
VHF	30MHz - 300MHz	10m - 1m	VERY HIGH FREQUENCY
UHF	300MHz - 1GHz	1m - 300mm	ULTRA HIGH FREQUENCY
L	1GHz - 2GHz	300mm - 150mm	LONG WAVE
S	2GHz - 4GHz	150mm - 75mm	SHORT WAVE
C	4GHz - 8GHz	75mm - 37.5mm	COMPROMISE: S AND X
X	8GHz - 12GHz	37.5mm - 25mm	FIRE CONTROL
Ku	12GHz - 18GHz	25mm - 16.7mm	KURZ-UNDER
K	18GHz - 27GHz	16.7mm - 11.1mm	GERMAN KURZ (SHORT)
Ka	27GHz - 40GHz	11.1mm - 7.5mm	KURZ-ABOVE
V	40GHz - 75GHz	7.5mm - 4mm	UNKOWN
W	75GHz - 110GHz	4mm - 2.73mm	W FOLLOWS V
mm	110GHz - 300GHz	2.73mm - 1mm	MILLIMETER



LIGHT BULB



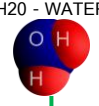
X-RAY



BACTERIA



VIRUS



H2O - WATER