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TYPICAL CONVERSION FORMULAS

LOG -> LINEAR VOLTAGE

dBµV to Volts	$V = 10^{((dB\mu V - 120) / 20)}$
Volts to dBµV	$dB\mu V = 20 \log(V) + 120$
dBV to Volts	$V = 10^{(dBV / 20)}$
Volts to dBV	$dBV = 20\log(V)$
dBV to dBµV	$dB\mu V = dBV + 120$
dBµV to dBV	$dBV = dB\mu V - 120$

LOG -> LINEAR CURRENT

dBµA to uA	$\mu A = 10^{(dB\mu A / 20)}$
µA to dBµA	$dB\mu A = 20 \log(\mu A)$
dBA to A	$A = 10^{(dBA / 20)}$
A to dBA	$dBA = 20\log(A)$
dBA to dBµA	$dB\mu A = dBA + 120$
dBµA to dBA	$dBA = dB\mu A - 120$

LOG -> LINEAR POWER

dBm to Watts	$W = 10^{((dBm - 30)/10)}$
Watts to dBm	$dBm = 10\log(W) + 30$
dBW to Watts	$W = 10^{(dBW / 10)}$
Watts to dBW	$dBW = 10\log(W)$
dBW to dBm	$dBm = dBW + 30$
dBm to dBW	$dBW = dBm - 30$

TERM CONVERSIONS

dBm to dBµV	$dB\mu V = dBm + 107$ (50Ω) *$dB\mu V = dBm + 10\log(Z) + 90$*
dBµV to dBm	$dBm = dB\mu V - 107$ (50Ω) *$dBm = dB\mu V - 10\log(Z) - 90$*
dBm to dBµA	$dB\mu A = dBm + 73$ (50Ω) *$dB\mu A = dBm - 10\log(Z) + 90$*
dBµA to dBm	$dBm = dB\mu A - 73$ (50Ω) *$dBm = dB\mu A + 10\log(Z) - 90$*
dBµA to dBµV	$dB\mu V = dB\mu A + 34$ (50Ω) *$dB\mu V = dB\mu A + 20\log(Z)$*
dBµV to dBµA	$dB\mu A = dB\mu V - 34$ (50Ω) *$dB\mu A = dB\mu V - 20\log(Z)$*

FIELD STRENGTH & POWER DENSITY

dBµV/m to V/m	$V/m = 10^{(((dB\mu V/m) - 120) / 20)}$
V/m to dBµV/m	$dB\mu V/m = 20 \log(V/m) + 120$
dBµV/m to dBmW/m²	$dBmW/m^2 = dB\mu V/m - 115.8$
dBmW/m² to dBµV/m	$dB\mu V/m = dBmW/m^2 + 115.8$
dBµV/m to dBµA/m	$dB\mu A/m = dB\mu V/m - 51.5$
dBµA/m to dBµV/m	$dB\mu V/m = dB\mu A + 51.5$
dBµA/m to dBpT	$DBpT = dB\mu A/m + 2$
dBpT to dBµA/m	$dB\mu A/m = dBpT - 2$
W/m² to V/m	$V/m = SQRT(W/m^2 * 377)$
V/m to W/m²	$W/m^2 = (V/m)^2 / 377$
µT to A/m	$A/m = \mu T / 1.25$
A/m to µT	$\mu T = 1.25 * A/m$

E-FIELD ANTENNAS

Correction Factor	$dB\mu V/m = dB\mu V + AF$
Field Strength	$V/m = \sqrt{\frac{30 * watts * Gain_{numeric}}{meters}}$
Required Power	$Watts = \frac{(V/m * meters)^2}{30 * Gain_{numeric}}$

LOOP ANTENNAS

Correction Factors	$dB\mu A/m = dB\mu V + AF$
Assumed E-field for shielded loops	$dB\mu V/m = dB\mu A/m + 51.5$
	$dBpT = dB\mu V + dBpT/\mu V$

CURRENT PROBES

Correction Factor	$dB\mu A = dB\mu V - dB_{(ohm)}$

Power needed for injection probe given voltage(V) into 50Ω load and Probe Insertion Loss (I_L)

$$Watts = 10^{((I_L + 10\log(V^2/50))/10)}$$