SECTION 2. Measurement Data

2.1 RF Power Output

The T-2000A is designed to transmit a maximum of 500 milliwatts; the output power is variable in 8 steps.

Shown below is the RF power output at each of the eight output levels, and transmitting at the low end of the band, middle of the band and the upper end of the frequency band.

Transmitting at 806.00625 MHz				
Output Level	Nominal OUTPUT POWER (W)	Nominal OUTPUT POWER (dBm)	Measured OUTPUT POWER (dBm)	Difference (dB)
0	0.500	27.0	26.8	-0.2
1	0.500	27.0	26.8	-0.2
2	0.500	27.0	26.8	-0.2
3	0.200	23.0	23.1	0.1
4	0.079	19.0	19.4	0.4
5	0.032	15.0	15.6	0.6
6	0.013	11.0	11.5	0.5
7	0.005	7.0	5.4	-1.6
		Maximum reading:	26.8	

Transmitting at 813.49375 MHz				
Output Level	Nominal OUTPUT POWER (W)	Nominal OUTPUT POWER (dBm)	Measured OUTPUT POWER (dBm)	Difference (dB)
0	0.500	27.0	26.9	-0.1
1	0.500	27.0	26.9	-0.1
2	0.500	27.0	26.9	-0.1
3	0.200	23.0	23.4	0.4
4	0.079	19.0	19.8	0.8
5	0.032	15.0	15.9	0.9
6	0.013	11.0	12.1	1.1
7	0.005	7.0	7.1	0.1
		Maximum reading:	26.9	

Transmitting at 820.99375 MHz				
Output Level	Nominal OUTPUT POWER (W)	Nominal OUTPUT POWER (dBm)	Measured OUTPUT POWER (dBm)	Difference (dB)
0	0.500	27.0	26.8	-0.2
1	0.500	27.0	26.8	-0.2
2	0.500	27.0	26.8	-0.2
3	0.200	23.0	23.4	0.4
4	0.079	19.0	19.5	0.5
5	0.032	15.0	15.8	0.8
6	0.013	11.0	11.4	0.4
7	0.005	7.0	6.4	-0.6
		Maximum reading:	26.8	

Note: Manufacturer declared gain of the antenna of the T-2000A Handset is 0 dBi.

$EIRP = G_{dBi} + P_{dBm} = G * P_W$

where:

G_{dBi} is the isotropic gain of the antenna in dB and

P_{dBm} is the power output at the antenna terminal expressed in dBm.

Conversion of the antenna gain from dBi is by the equation

$G = 10^{dBi/10} = 10^{0dBi/10} = 1$

Conversion of the isotropic gain to the gain of a half - wave dipole is made by dividing by the factor of 1.64. (gain of the half - wave dipole relative to an isotropic antenna). $1/1.64 = 0.609 = -2.15$ dB

EIRP = 0 + 26.9 dBm = 26.9 dBm = 489.8 mW

ERP = 26.9 dBm - 2.15 dB = 24.7dBm, or

ERP = 489.3 mW $\times 0.609 = 298$mW $= 24.7$dBm