

RF POWER OUTPUT DATA

The RF power output was measured with the indicated voltage applied to and current into the final RF amplifying device.

Measured Conducted RF Output	0.580	Watts
* Calculated Radiated RF Output *	0.3338	Watts
Normal DC Voltage	4.20	Volts
Normal DC Current	650	ma
Primary Supply Voltage	4.50	Volts

RF Conducted output measured at 4.5 Volts

*Calculated Radiated RF output. The conducted power measurements converted to dBm minus the antenna loss,

Which is 2.4dB (see exhibit 6A-2) and converted back to watts ERP

$$10\log(580\text{mw}/1\text{mw}) = 27.635\text{dBm}$$

$$\text{ERP} = 27.635\text{dBm} - 2.4\text{dB} = 25.235\text{dBm}$$

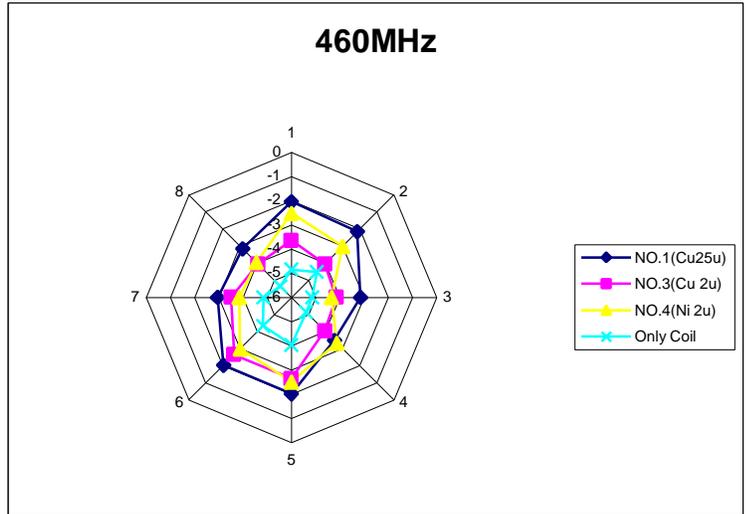
$$\text{ERP} = 10^{(25.235/10)} = 10^{2.5235} = 333.8 \text{ mWatts.}$$

The antenna gain (loss) is measured in an anechoic chamber free of outside radiation, refraction, defraction and interference. The anechoic chamber's path loss = 37.9 dBm. The antenna was placed on an infinite ground plane, and 10dBm was transmitted from the antenna. The receiving spectrum analyzer registered -30.3 dBm. Therefore, the antenna gain = $P_r - P_t + \text{Pathloss} = -30.3 - 10 + 37.9 = -2.4 \text{ dB}$.

Antenna performance data over frequency is on the next page.

EXHIBIT: 6A-1

460MHz		UNIT:dBi		
Degree	NO.1(Cu25u)	NO.3(Cu 2u)	NO.4(Ni 2u)	Only Coil
0	-2.05	-3.65	-2.52	-4.85
45	-2.15	-4.05	-3.02	-4.52
90	-3.15	-4.15	-4.35	-5.15
135	-3.49	-4.05	-3.35	-5.15
180	-2.02	-2.65	-2.52	-4.05
225	-2.05	-2.65	-3.02	-4.35
270	-2.95	-3.52	-3.85	-4.85
315	-3.15	-4.05	-3.95	-5.35
Average	-2.63	-3.60	-3.32	-4.78



470MHz		UNIT:dBi		
Degree	NO.1(Cu25u)	NO.3(Cu 2u)	NO.4(Ni 2u)	Only Coil
0	-2.53	-2.51	-3.35	-4.18
45	-2.68	-3.18	-3.51	-4.68
90	-2.35	-3.51	-3.68	-5.18
135	-2.68	-2.99	-3.95	-4.68
180	-2.35	-2.93	-3.19	-4.68
225	-2.01	-2.35	-3.34	-4.35
270	-2.51	-2.51	-2.85	-4.52
315	-2.69	-2.99	-3.68	-4.01
Average	-2.48	-2.87	-3.44	-4.54

