rf/microwave instrumentation

The Model ATH200M1G high-gain horn antenna exhibits increasing gain with increasing frequency (up to 18dB at 1000MHz). With this useful performance characteristic, the antenna helps compensate for losses that occur elsewhere in an RF test system - losses which generally increase with frequency.

The Model ATH200M1G is well suited for either shielded room or free space testing. Optimum performance is achieved when it is used with our Model 2000W1000 or for even higher fields, our Model 3000W1000 broadband amplifier for RF susceptibility testing.
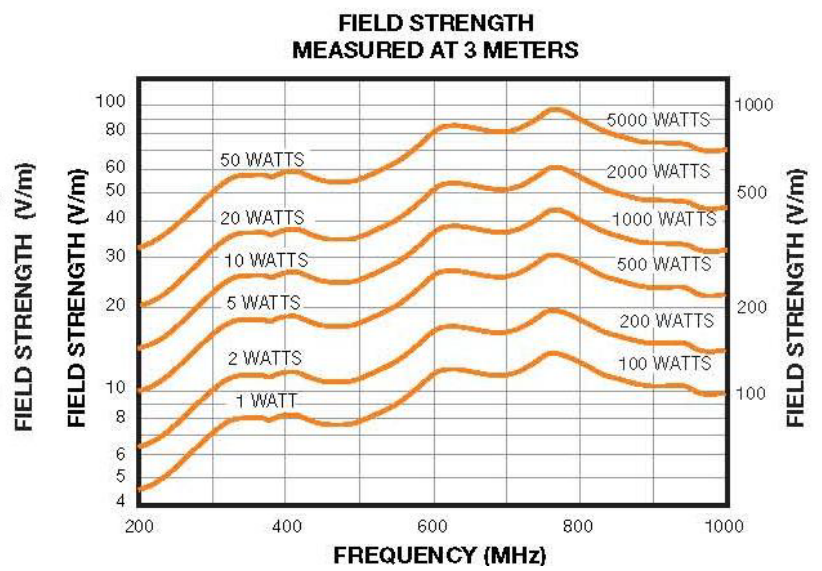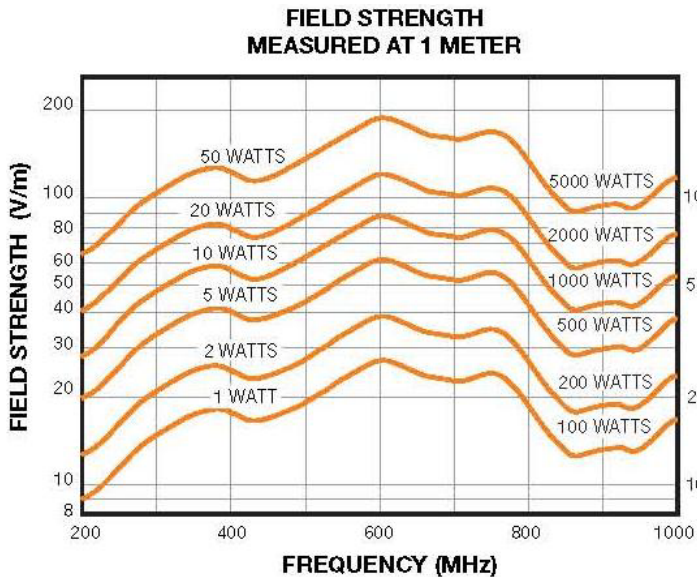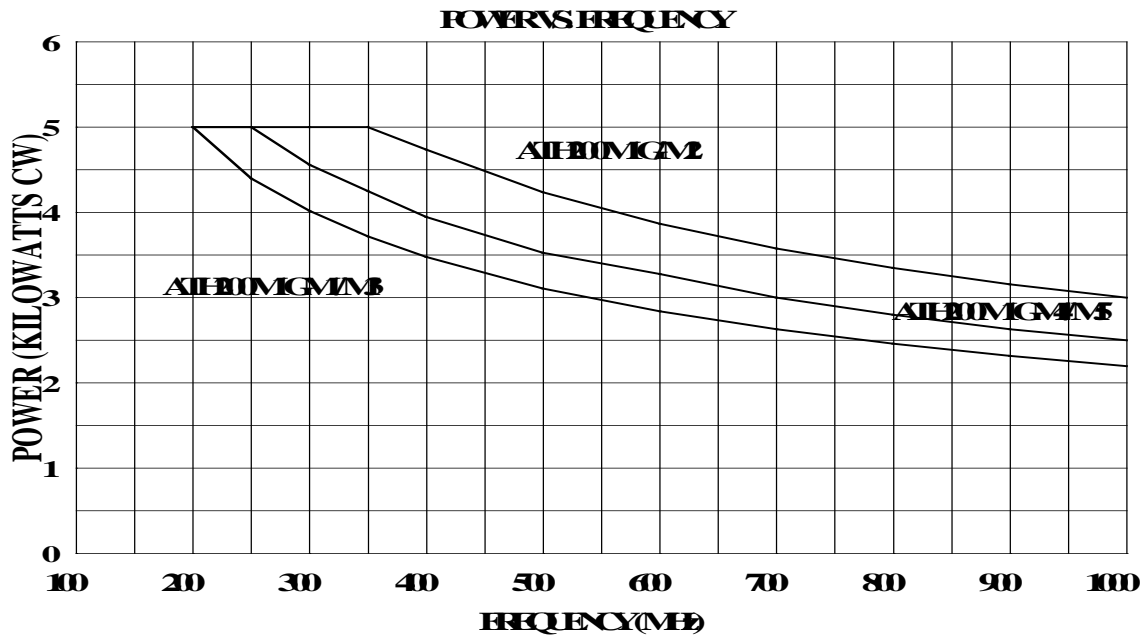
In shielded rooms, reflections and room losses may reduce the available field. AR suggests a design safety factor of 100% in the selection of power amplifiers.

SPECIFICATIONS

FREQUENCY RANGE ....200–1000 MHz

POWER INPUT ....See Graph (Figure 1)

POWER GAIN ....10dBi minimum, typically increasing to 18dBi at 1000MHz

IMPEDANCE ....50 ohms nominal

VSWR ....2.5:1 maximum
1.5:1 average

BEAMWIDTH (front to back)...Typical curves available on request

CONNECTOR ....See Model Configuration

MOUNTING PROVISIONS..Pads with 3/8-16 thread and hole pattern for stand mounting vertically or horizontally.

HEAVY DUTY TRIPOD AND ADAPTER ....See Model Configuration

WEIGHT ....46 kg (100 lb)

SIZE (WxHxD)...109.2 x 145.8 x 175.3 cm, (43.0 x 57.0 x 69.0 in.)

MODEL CONFIGURATIONS

MODEL NUMBER	CONNECTOR	POWER INPUT	TRIPOD AND ADAPTER
ATH200M1G	1 5/8 EIA flange	See Graph (Figure 1)	INCLUDED
ATH200M1GM1	7-16 DIN female	See Graph (Figure 1)	INCLUDED
ATH200M1GM2	1 5/8 EIA Flange	See Graph (Figure 1)	NOT INCLUDED
ATH200M1GM3	7-16 DIN Female	See Graph (Figure 1)	NOT INCLUDED
ATH200M1GM4	LC Female	See Graph (Figure 1)	INCLUDED
ATH200M1GM5	LC Female	See Graph (Figure 1)	NOT INCLUDED

POWER VS FREQUENCY

ATH100M1G-M2

ATH100M1G-M1/M3

ATH100M1G-M4/M5

POWER (KILOWATTS CW)

FREQUENCY (MHz)

FIELD STRENGTH
MEASURED AT 1 METER

FIELD STRENGTH (V/m)

50 WATTS
20 WATTS
10 WATTS
5 WATTS
2 WATTS
1 WATT

5000 WATTS
2000 WATTS
1000 WATTS
500 WATTS
200 WATTS
100 WATTS

FIELD STRENGTH (V/m)

FREQUENCY (MHz)

FIELD STRENGTH
MEASURED AT 3 METERS

FIELD STRENGTH (V/m)

50 WATTS
20 WATTS
10 WATTS
5 WATTS
2 WATTS
1 WATT

5000 WATTS
2000 WATTS
1000 WATTS
500 WATTS
200 WATTS
100 WATTS

FIELD STRENGTH (V/m)

FREQUENCY (MHz)

Field strengths have been measured in free-space conditions. Individual shielded rooms, amplifiers, and test-system conditions will influence performance. Field strength also varies with frequency and position of antenna and EUT in non-anechoic testing environments.