





# 001-0028

2 dBi Dipole Antenna with RP SMA 863-870 MHz

ELECTRICAL SPECIFICATIONS	
Operating Frequency (MHz)	863-870
VSWR	≤ 2.0:1
Gain (dBi)	2.0
Nominal Impedance (Ohms)	50
Polarization	Linear vertical

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS	
Dimensions – mm (inches)	197.0 x 13.0 (7.76 x 0.51)
Ingress Protection	IP-65
Weight – g (ounces)	27.0 (0.95)
Antenna Color	Black
Operating Temperature – °C (°F)	-20 to +65°C (-4 to +149°F)
Storage Temperature - °C (°F)	-30 to +70°C (-22 to +158°F)

# **ORDERING INFORMATION**

PART NUMBER	DESCRIPTION
001-0028	868 MHz dipole antenna with reverse polarity SMA connector
080-0001	U.FL to SMA bulkhead cable, 1.13 mm diameter, 105.0 mm length

#### **MECHANICAL DRAWING**



Figure 1: Physical dimensions

#### **TEST SETUP**

Antenna measurements such as VSWR were measured with an Agilent E5071C vector network analyzer. Radiation patterns were measured with a CMT planar 804/1 vector network analyzer in a Howland Company 3100 chamber equivalent. Phase center is nine inches above the Phi positioner.



Figure 2: Antenna chamber

# **TYPICAL ANTENNA REFLECTION PERFORMANCE**

# **Straight Position**



#### Figure 3: Typical antenna reflection performance

#### **Bent Position**



#### Figure 4: Typical antenna reflection performance

#### **TYPICAL ANTENNA RADITION PERFORMANCE**

### **Antenna Measurement Setup**



Figure 5: Straight position test setup

## **Straight Position**

Azimuth Conical Cuts at 868 MHz:



Azimuth Gain Pattern Cuts - Total Gain at 868 MHz

Figure 6: Total gain pattern

## 3D Plots at 868 MHz:



Figure 7: Phi, theta, and total gain plots

#### **ANTENNA MEASUREMENT SETUP**



Figure 8: Bent position test setup

#### **Bent Position**

Azimuth Conical Cuts at 868 MHz:



Azimuth Gain Pattern Cuts - Total Gain at 868 MHz

270 Gain Summary at 868 (MHz) min: -21.2 (dBi) max: 1.6 (dBi) avg: -2.2 (dBi)

Figure 9: Total gain pattern

3D Plots at 868 MHz:



3D Radiation Pattern - Theta Polarization Gain at 868 MHz

Figure 10: Phi, theta, and total gain plots



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DATA AND DEVICES / 001-0028

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